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(71) 出願人 000001007

キヤノン株式会社

東京都大田区下丸子3丁目30番2号

(72) 発明者 上島 純一

東京都大田区下丸子3丁目30番2号 キヤ
ノン株式会社内

(72) 発明者 黒岩 創吾

東京都大田区下丸子3丁目30番2号 キヤ
ノン株式会社内

(74) 代理人 100090273

弁理士 國分 孝悦

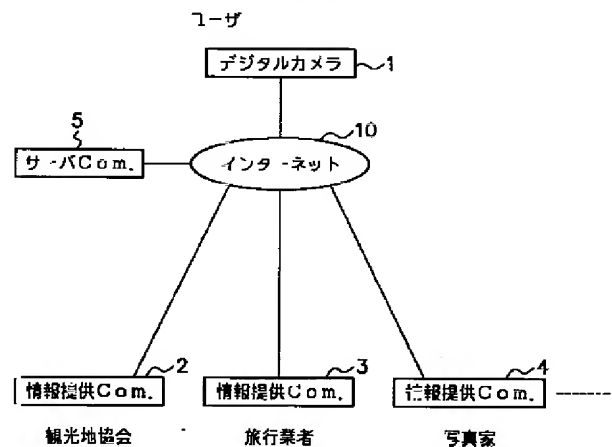
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(57) 【要約】

【課題】 写真を撮影する者が絶好の写真撮影に関する情報を簡単かつ確実に入手可能にして、撮影者の所望する写真撮影を行うことができるようにする。

【解決手段】 画像情報の提供を受けるデジタルカメラ1と、画像情報の提供を行う情報提供コンピュータ2、3、4、…と、これらの間の仲介を行うサーバコンピュータ5とをインターネット10上に有するネットワークシステムにおいて、デジタルカメラ1からサーバコンピュータ5に対して提供を受ける画像情報に関するユーザ要求情報を発行し、発行されたユーザ要求情報の条件を満足する画像情報をサーバコンピュータ5が情報提供コンピュータ2、3、4、…から収集し、収集した画像情報をデジタルカメラ1に提供するようにすることにより、画像情報の提供を受けるユーザが、撮影を希望するような写真画像を簡単な作業で確実に入手することができるようにする。



【特許請求の範囲】

【請求項1】 提供を受ける画像情報に関するユーザ要求情報を入力する要求入力手段と、

上記要求入力手段により入力された上記ユーザ要求情報の条件を満足する画像情報を当該画像情報の提供側から収集する画像収集手段と、

上記画像収集手段により収集された画像情報を、上記画像情報の提供を受ける側に提供する画像提供手段とを備えたことを特徴とする情報処理装置。

【請求項2】 上記画像収集手段は、上記要求入力手段により入力された上記ユーザ要求情報を上記画像情報の提供側に配信する要求配信手段と、上記要求配信手段により上記ユーザ要求情報を配信したことの応答として、上記画像情報の提供側から送られてくる提供情報を入力する提供情報入力手段と、上記提供情報入力手段により入力された1つ以上の提供情報の中から、上記ユーザ要求情報の条件を満足するものを選択し、選択した旨を表す選択情報を当該選択された提供情報の発信元に送信する選択情報送信手段と、上記選択情報送信手段により上記選択情報を送信したことの応答として、上記選択された提供情報の発信元から送られてくる画像情報を入力する画像情報入力手段とを備えることを特徴とする請求項1に記載の情報処理装置。

【請求項3】 上記画像収集手段により収集された画像情報を加工して確認用の加工画像情報を生成し、当該加工画像情報を用いて、上記画像情報の提供を受ける側のユーザに確認を行う確認手段を更に備えることを特徴とする請求項1または2に記載の情報処理装置。

【請求項4】 上記ユーザ要求情報は、ユーザが要求する画像の場所に関する情報を含むことを特徴とする請求項1～3の何れか1項に記載の情報処理装置。

【請求項5】 上記画像提供手段は、上記画像収集手段により収集された画像情報を、上記画像の場所に対応する地図情報と関連付けて提供することを特徴とする請求項4に記載の情報処理装置。

【請求項6】 上記ユーザ要求情報は、ユーザが要求する画像の季節に関する情報を含むことを特徴とする請求項1～3の何れか1項に記載の情報処理装置。

【請求項7】 上記季節に関する情報は、現在の季節に関する情報が設定されることを特徴とする請求項6に記載の情報処理装置。

【請求項8】 上記画像提供手段は、上記画像収集手段により収集された画像情報を季節情報と関連付けて提供することを特徴とする請求項6または7に記載の情報処理装置。

【請求項9】 上記画像提供手段は、上記画像収集手段により収集された画像情報を、上記画像情報の提供側から送られた広告情報と関連付けて提供することを特徴とする請求項1～8の何れか1項に記載の情報処理装置。

【請求項10】 画像情報の提供を受けるためにユーザ要求情報を出力する要求出力手段と、

上記要求出力手段により出力された上記ユーザ要求情報に対する応答として上記画像情報の提供側から収集された、上記ユーザ要求情報の条件を満足する画像情報を入力する画像入力手段とを備えたことを特徴とする情報処理装置。

【請求項11】 上記画像情報の提供側から収集された画像情報をもとに生成された確認用の加工画像情報を入力し、当該加工画像情報を用いて確認を行った上で、所望の画像の提供を請求する画像請求手段を備え、上記画像入力手段は、上記画像請求手段により所望の画像の提供が請求されたことの応答として上記ユーザ要求情報の条件を満足する画像情報を入力することを特徴とする請求項10に記載の情報処理装置。

【請求項12】 上記ユーザ要求情報は、ユーザが要求する画像の場所に関する情報を含むことを特徴とする請求項10または11に記載の情報処理装置。

【請求項13】 上記画像入力手段により入力される画像情報は、上記画像の場所に対応する地図情報と関連付けて提供されることを特徴とする請求項12に記載の情報処理装置。

【請求項14】 上記ユーザ要求情報は、ユーザが要求する画像の季節に関する情報を含むことを特徴とする請求項10または11に記載の情報処理装置。

【請求項15】 上記季節に関する情報は、現在の季節に関する情報が設定されることを特徴とする請求項14に記載の情報処理装置。

【請求項16】 上記画像入力手段により入力される画像情報は、季節情報と関連付けて提供されることを特徴とする請求項14または15に記載の情報処理装置。

【請求項17】 上記画像入力手段により入力される画像情報は、上記画像情報の提供側から送られた広告情報と関連付けて提供されることを特徴とする請求項10～16の何れか1項に記載の情報処理装置。

【請求項18】 画像情報の提供を受ける第1の端末と、画像情報の提供を行う第2の端末と、上記第1の端末および上記第2の端末間の仲介を行う第3の端末とをネットワーク上に有するネットワークシステムであって、

上記第1の端末から上記第3の端末に対して、提供を受ける画像情報に関するユーザ要求情報を発行する要求発行手段と、

上記要求発行手段により発行された上記ユーザ要求情報を上記第3の端末で受けて、上記ユーザ要求情報の条件を満足する画像情報を上記第2の端末から収集する画像収集手段と、

上記第3の端末が上記第2の端末から収集した画像情報を上記第1の端末に提供する画像提供手段とを備えたことを特徴とするネットワークシステム。

【請求項１９】 上記画像収集手段は、
 上記第１の端末より上記第３の端末が受けた上記ユーザ要求情報を上記第２の端末に配信する要求配信手段と、
 上記要求配信手段により上記ユーザ要求情報を配信したことの応答として上記第２の端末から送られてくる提供情報を入力する提供情報入力手段と、
 上記提供情報入力手段により入力された１つ以上の提供情報の中から、上記ユーザ要求情報の条件を満足するものを選択し、選択した旨を表す選択情報を当該選択された提供情報の発信元である第２の端末に送信する選択情報送信手段と、
 上記選択情報送信手段により上記選択情報を送信したことの応答として上記第２の端末から送られてくる画像情報を入力する画像情報入力手段とを備えることを特徴とする請求項１８に記載のネットワークシステム。

【請求項２０】 上記第３の端末は、上記画像収集手段により収集された画像情報を加工して確認用の加工画像情報を生成し、当該加工画像情報を上記第１の端末に送信し、当該第１の端末のユーザに確認を行う確認手段を備えることを特徴とする請求項１８または１９に記載のネットワークシステム。

【請求項２１】 上記ユーザ要求情報は、ユーザが要求する画像の場所に関する情報を含み、上記画像提供手段は、上記画像収集手段により収集された画像情報を、上記画像の場所に対応する地図情報と関連付けて提供することを特徴とする請求項１８～２０の何れか１項に記載のネットワークシステム。

【請求項２２】 上記ユーザ要求情報は、ユーザが要求する画像の季節に関する情報を含み、上記画像提供手段は、上記画像収集手段により収集された画像情報を季節情報と関連付けて提供することを特徴とする請求項１８～２１の何れか１項に記載のネットワークシステム。

【請求項２３】 上記画像提供手段は、上記画像収集手段により収集された画像情報を、上記第２の端末から送られた広告情報と関連付けて提供することを特徴とする請求項１８～２２の何れか１項に記載のネットワークシステム。

【請求項２４】 提供を受ける画像情報に関するユーザ要求情報を上記画像情報の提供を受ける側から入力し、上記入力された上記ユーザ要求情報の条件を満足する画像情報を当該画像情報の提供側から収集し、上記収集した画像情報を上記画像情報の提供を受ける側に提供するようにしたことを特徴とする画像情報提供方法。

【請求項２５】 上記画像情報の提供を受ける側から入力された上記ユーザ要求情報を上記画像情報の提供側に配信し、その応答として上記画像情報の提供側から送られてくる１つ以上の提供情報の中から上記ユーザ要求情報の条件を満足するものを選択し、選択した旨を表す選択情報を当該選択された提供情報の発信元に送信し、その応答として上記選択された提供情報の発信元から送ら

れてくる画像情報を収集するようにしたことを特徴とする請求項２４に記載の画像情報提供方法。

【請求項２６】 上記収集された画像情報を加工して確認用の加工画像情報を生成し、当該加工画像情報を用いて上記画像情報の提供を受ける側のユーザに確認を行った上で、請求された画像情報を提供するようにしたことを特徴とする請求項２４または２５に記載の画像情報提供方法。

【請求項２７】 上記ユーザ要求情報は、ユーザが要求する画像の場所に関する情報を含み、上記収集された画像情報を、上記画像の場所に対応する地図情報と関連付けて提供するようにしたことを特徴とする請求項２４～２６の何れか１項に記載の画像情報提供方法。

【請求項２８】 上記ユーザ要求情報は、ユーザが要求する画像の季節に関する情報を含み、上記収集された画像情報を季節情報と関連付けて提供するようにしたことを特徴とする請求項２４～２７の何れか１項に記載の画像情報提供方法。

【請求項２９】 上記収集された画像情報を、上記画像情報の提供側から送られた広告情報と関連付けて提供するようにしたことを特徴とする請求項２４～２８の何れか１項に記載の画像情報提供方法。

【請求項３０】 請求項１～２３の何れか１項に記載の各手段としてコンピュータを機能させるためのプログラムを記録したことを特徴とするコンピュータ読み取り可能な記録媒体。

【請求項３１】 請求項２４～２９の何れか１項に記載の画像情報提供方法の処理手順をコンピュータに実行させるためのプログラムを記録したことを特徴とするコンピュータ読み取り可能な記録媒体。

【発明の詳細な説明】

【０００１】

【発明の属する技術分野】本発明は情報処理装置、ネットワークシステム、画像情報提供方法および記録媒体に関し、特に、インターネット等のネットワークを介して画像情報の交換を行うシステムに用いて好適なものである。

【０００２】

【従来の技術】従来、観光地などへ赴いた際に、絵葉書のように綺麗な写真を撮りたいと思う場合、その絵葉書の撮影スポット等を知るためには、絵葉書を実際に買うか、あるいは写真が掲載されている旅行マップや雑誌などを購入して調べる必要があった。さらに、絵葉書などを購入して撮影スポットの地名が分かった場合でも、その写真が撮られた場所を、地図帳を開いて絵葉書と見比べながら細かく探す必要があった。

【０００３】

【発明が解決しようとする課題】しかしながら、写真を撮影する者が希望する情報を適当に入手するために、上述のように絵葉書や地図帳を詳細に調べたりする方法で

は、写真撮影者の作業は極めて煩雑になり、耐え難い。一方、撮影場所を観光地協会などに電話で問い合わせる方法もあるが、電話による問い合わせでは細かい場所まで明確に伝えることは困難である。また、問い合わせを受けた観光地協会が適当な情報を持ち合わせていない事態も相当数考えられる。このような場合は、撮影者の投じた労力と時間に見合うだけの写真撮影が不可能になることが多いという不都合を生ずる。

【0004】また、仮に詳細な撮影場所が分かったとしても、いざ撮影をしようとする、どのように撮影したら絵葉書のように綺麗な写真がとれるのかが分からないことが多くあった。そのため、絵葉書が撮影された場所にせつかく赴いたとしても、撮影者の希望する綺麗な写真を撮ることができないという問題があった。

【0005】本発明は、このような問題を解決するために成されたものであり、写真を撮影する者が絶好の写真撮影に関する情報を簡単かつ確実に入手可能にして、撮影者の所望する写真撮影を行うことができるようにすることを目的とする。また、本発明は、観光地協会や旅行者あるいは写真家などが、その観光地に興味のある者に限定して逐一な広告宣伝を効率的に行うことができるようにすることを目的とする。

【0006】

【課題を解決するための手段】本発明の情報処理装置は、提供を受ける画像情報に関するユーザ要求情報を入力する要求入力手段と、上記要求入力手段により入力された上記ユーザ要求情報の条件を満足する画像情報を当該画像情報の提供側から収集する画像収集手段と、上記画像収集手段により収集された画像情報を、上記画像情報の提供を受ける側に提供する画像提供手段とを備えたことを特徴とする。

【0007】本発明のその他の態様では、上記画像収集手段により収集された画像情報を加工して確認用の加工画像情報を生成し、当該加工画像情報を用いて、上記画像情報の提供を受ける側のユーザに確認を行う確認手段を更に備えることを特徴とする。

【0008】本発明のその他の態様では、上記ユーザ要求情報は、ユーザが要求する画像の場所に関する情報を含むことを特徴とする。この場合、上記画像提供手段は、上記画像収集手段により収集された画像情報を、上記画像の場所に対応する地図情報と関連付けて提供するようにしても良い。

【0009】本発明のその他の態様では、上記ユーザ要求情報は、ユーザが要求する画像の季節に関する情報を含むことを特徴とする。この場合、上記画像提供手段は、上記画像収集手段により収集された画像情報を季節情報と関連付けて提供するようにしても良い。

【0010】本発明のその他の態様では、上記画像提供手段は、上記画像収集手段により収集された画像情報を、上記画像情報の提供側から送られた広告情報と関連

付けて提供することを特徴とする。

【0011】また、本発明のネットワークシステムは、画像情報の提供を受ける第1の端末と、画像情報の提供を行う第2の端末と、上記第1の端末および上記第2の端末間の仲介を行う第3の端末とをネットワーク上に有するネットワークシステムであって、上記第1の端末から上記第3の端末に対して、提供を受ける画像情報に関するユーザ要求情報を発行する要求発行手段と、上記要求発行手段により発行された上記ユーザ要求情報を上記第3の端末で受けて、上記ユーザ要求情報の条件を満足する画像情報を上記第2の端末から収集する画像収集手段と、上記第3の端末が上記第2の端末から収集した画像情報を上記第1の端末に提供する画像提供手段とを備えたことを特徴とする。

【0012】また、本発明の画像情報提供方法は、提供を受ける画像情報に関するユーザ要求情報を上記画像情報の提供を受ける側から入力し、上記入力された上記ユーザ要求情報の条件を満足する画像情報を当該画像情報の提供側から収集し、上記収集した画像情報を上記画像情報の提供を受ける側に提供するようにしたことを特徴とする。

【0013】また、本発明コンピュータ読み取り可能な記録媒体は、請求項1～23の何れか1項に記載の各手段としてコンピュータを機能させるためのプログラム、あるいは、請求項24～29の何れか1項に記載の画像情報提供方法の処理手順をコンピュータに実行させるためのプログラムを記録したことを特徴とする。

【0014】上記のように構成した本発明によれば、画像情報の提供を受けるユーザは、自己が撮影を所望する画像情報に関するユーザ要求情報をネットワークを介して送信し、その応答として送られてくる画像情報の提供を受ける。一方、画像情報の提供者は、ユーザ要求情報に関する自己の提供情報をネットワークを介して提供するとともに、情報提供者が所有する画像情報を提供する。したがって、ユーザにしてみれば、簡単な操作のみによって所望する画像情報を確実に入手することができる。

【0015】また、本発明のその他の特徴によれば、画像情報の提供を受ける際に、加工画像情報を用いて所望する画像であるか否かをユーザ自身が確認する段階を経るようにしているため、ユーザは直感的により有効な画像情報を得ることが可能となる。

【0016】また、本発明のその他の特徴によれば、ユーザは、提供を受ける画像情報を、地図情報、季節情報あるいは広告情報と関連づけて得ることができ、ユーザにしてみれば、画像情報およびそれに関連する付随情報を迅速かつ的確に入手することが可能となる。また、画像情報が季節に関連付けられているために、ユーザは、所望する季節の画像情報を自己の判断の元で選択して得ることができる。しかも、これらの情報の提供がタイム

ラグ無しに行われるので、ユーザおよび情報提供者の双方に、従来までの画像情報提供あるいは収集では得られなかったメリットがある。

【0017】

【発明の実施の形態】以下、本発明の一実施形態を図面に基づいて説明する。なお、以下に説明する実施形態において、写真を撮影する者は撮影手段としてデジタルカメラを使用し、かつ、当該デジタルカメラは、情報通信端末として機能するよう通信回線を通してインターネットに接続することが可能であるものとする。したがって、本実施態様の説明においては、写真を撮影する者をデジタルカメラユーザと言い、当該デジタルカメラユーザが使用する情報処理装置をデジタルカメラと言うことにする。

【0018】（全体構成）まず、本実施形態のネットワークシステム全体の構成について図面を参照して説明する。図1は、本実施形態によるネットワークシステムの構成を示すブロック図である。この図1において、デジタルカメラ1は、通信機能を介してインターネット10などのネットワークに接続可能に構成されているものである。デジタルカメラユーザは、このデジタルカメラ1を用いて写真撮影を行うことはもちろん、デジタルカメラユーザが希望する撮影に関する情報をインターネット10を介して入手することが可能である。

【0019】情報提供コンピュータ2, 3, 4, …は、各種の情報処理端末であり、通信機能を介してインターネット10に接続されるものである。これらの情報提供コンピュータ2, 3, 4, …は、例えば、観光地協会、旅行業者、写真家などが使用し、それぞれが保有する撮影に関する情報を、外部から与えられる要求に応じてインターネット10を介して提供する。

【0020】また、サーバコンピュータ5は、上記デジタルカメラ1と情報提供コンピュータ2, 3, 4, …との仲介を行う情報処理装置であり、後述する入出力制御部32および通信回線を經由してインターネット10に接続されている。このサーバコンピュータ5は、デジタルカメラ1からの要求に応じて、情報提供コンピュータ2, 3, 4, …からインターネット10を介して撮影に関する情報を収集し、それをインターネット10を介してデジタルカメラ1に提供する機能を有している。

【0021】（デジタルカメラ1の構成）図2に、デジタルカメラ1の外形図を示す。図2に示すように、デジタルカメラ1の正面には、電源スイッチ51、撮像素子（例えばCCD素子）およびレンズからなる撮像ユニット52が配されている。また、背面には、インターネットの接続スイッチ57、手書入力機構付きディスプレイ装置53が設置され、側面には、有線通信接続端子54、携帯メモリ接続端子55が設置されている。また、付属としてデータ入力用のポインティングペン56が備えられている。

【0022】上記ディスプレイ装置53は、液晶ディスプレイの前面に透明電極を有するタブレットを貼り付けたもので、手書入力装置としても機能するものである。ディスプレイ装置53に表示される文字、マーク等を見ながら該当部分にポインティングペン56を接触させたり文字等を描いたりすると、その接触部分の座標点を検出される。表示される文字、マーク等はソフトキーボードの役割を持ち、検出された座標点に応じて対応する処理が実行される。また、液晶ディスプレイは、撮影された画像のファインダとして用いることもできる。

【0023】図3は、デジタルカメラ1の回路構成を示すブロック図である。図3において、71はCODECであり、撮像ユニット52にて撮像された画像信号を符号化して画像情報に変換するとともに、符号化された画像情報を復号化する処理を行う。72はデジタルカメラ1の動作を制御するマイクロプロセッサ（以下「CPU」と表記する）、73はCPU72が実行するプログラムを格納するプログラムメモリ（ROM）、74はCPU72が作業用に用いるワークメモリ（RAM）である。

【0024】75は撮影位置等を取得するためのグローバル・ポジショニング・システム（GPS）、76は無線通信インタフェース、77は有線通信インタフェース、78は携帯メモリ用の接続インタフェースである携帯メモリインタフェース、79は内部バスである。80はハードディスク等のデータメモリであり、画像情報、デジタルカメラユーザの識別記号、ユーザ要求情報等を記憶する。また、82は水晶発振子と半導体集積回路とからなる時計である。

【0025】図2に示した有線通信接続端子54は、図3の有線通信インタフェース77をネットワークの有線通信路（ISDN）に接続するための端子である。また、図2に示した携帯メモリ接続端子55は、外部メモリとして採用した図示しない携帯メモリ（メモリカードのほか、光磁気ディスク装置またはハードディスク装置などでもよい）に図3の携帯メモリインタフェース78を接続するための端子である。なお、外部メモリは、携帯メモリの他に、据置型のメモリを用いることも可能である。その場合には端子の構造を変える必要がある。

【0026】無線通信インタフェース76は、例えば、携帯電話端末を用いて、あるいはデジタルカメラ1内に無線通信機構を設置することで構成することができる。また、GPS75は、複数の専用衛星から送られてくる電波を受信し、当該電波が送られてくる時刻と自端末が管理する時刻との時間差から伝播時間（これは端末の移動距離を意味するものである）を測定し、自端末の現在位置を求めるものである。時計82は、CPU72からの命令に従って、現在時刻（年月日も含む）のデータをデータメモリ80に送る。

【0027】デジタルカメラ1は、大きくわけて2つの

機能を有する。1つは撮影機能であり、もう1つは画像の通信機能である。そして、画像の通信のために、ユーザIDが設定される。このユーザIDの設定は、デジタルカメラ1の電源投入直後に行われる。また、画像の通信の際には、画像データおよびユーザ要求情報等と共にユーザ登録番号がデータメモリ80に記憶される。

【0028】(サーバコンピュータ5の構成)次に、サーバコンピュータ5の詳細構成について説明する。図4は、サーバコンピュータ5の構成例を示すブロック図である。この図4において、31は制御手段であり、CPU等から構成され、サーバコンピュータ5内の各部の制御やデータ転送、種々の演算、データの一時的な格納等を行う。32は入出力制御部であり、インターネット10を介して入力あるいは出力されるデータを管理する。

【0029】33～38はいずれも記憶手段であり、それぞれ以下のファイルが格納、記憶されている。すなわち、第1の記憶手段33には、デジタルカメラユーザが要求する画像に関する情報がユーザ要求ファイルとして記憶される。本実施形態において、ユーザ要求ファイルは、ユーザIDあるいはユーザ登録番号と、ユーザ要求情報とから構成される。ユーザ要求情報には、デジタルカメラユーザが要求する画像に関する情報、例えば観光地名、画像撮影の季節などの情報が含まれる。

【0030】第2の記憶手段34には、上記ユーザ要求情報にตอบสนองして観光地協会、旅行者、写真家などから送られてきた提供情報がファイルとして記憶される。本実施形態において、この提供情報ファイルは、登録者IDあるいは登録者番号と、提供情報とから構成される。この提供情報は、観光地協会や旅行者、写真家などがデジタルカメラユーザに提供することができる画像に関する情報で構成される。これは、例えば観光地名、画像の撮影時期や撮影場所、撮影角度などの情報である。

【0031】第3の記憶手段35には、デジタルカメラユーザに関するユーザ登録番号と、デジタルカメラユーザに情報や画像を提供する観光地協会、旅行者、写真家などを登録した際の登録者番号とが記憶されている。本実施形態においては、観光地協会や旅行者、写真家などが登録される際の課金、代金の支払いがインターネット10を使用して行われ、クレジットカード、コンビニエンスストア、SET (Secure Electric Transaction)、デビットカード、あるいは携帯電話を利用した支払いにより登録者番号が登録されるものとする。

【0032】第4の記憶手段36には、観光地協会や旅行者、写真家などからデジタルカメラユーザに提供される画像、および当該提供される画像に対してサブサンプリング処理や画像情報の間引き処理を行って縮小した加工画像がファイルとして記憶される。

【0033】第5の記憶手段37には、地図データファイルが記憶されている。本実施形態における地図データファイルは、三層の階層構造を有している。上層は日本

地図であり、中層は都道府県別の地図であり、下層は観光地(例えば、市町村単位、繁華街単位、国立公園単位など)の地図である。なお、各層の地図はいずれもビットマップ形式であっても構わない。

【0034】第6の記憶手段38には、観光地協会、旅行者、写真家等から送信される宣伝や広告に関するデータファイルが記憶される。この宣伝広告ファイルは、登録者番号ごとに作成されるものである。

【0035】40は第7の記憶手段であり、CPU等から構成される制御手段31のための制御プログラムが記憶されている。かかる制御プログラムは、例えば、デジタルカメラ1の表示部に案内画面を表示させるプログラム、画像を送受信するためのプログラム、ユーザ要求情報と提供情報とを比較検索するためのプログラム、位置情報を検出するためのプログラム等から構成される。

【0036】(情報提供コンピュータ2, 3, 4, …の構成)観光地協会、旅行者、写真家などが所有する情報提供コンピュータ2, 3, 4, …は、インターネット10に接続可能な端末である。これらの情報提供コンピュータ2, 3, 4, …は、それぞれCRTやLCD等の表示部とともに、キーボードやマウス等の入力部を有する。

【0037】(動作説明)次に、デジタルカメラユーザの希望に対して、いかにして地図情報にリンクした画像がインターネット10を介してデジタルカメラ1に配信されるかについて説明する。ここで、デジタルカメラ1は、無線通信または有線通信でインターネット10によりサーバコンピュータ5と接続されて通信を行い、デジタルカメラユーザの端末として機能する。また、情報提供コンピュータ2, 3, 4, …も、無線通信または有線通信でインターネット10によりサーバコンピュータ5と接続されて通信を行い、観光地協会や旅行者、あるいは写真家の端末として機能する。

【0038】図5は、デジタルカメラ1、サーバコンピュータ5および情報提供コンピュータ2, 3, 4, …を含むシステム全体の処理の流れを示すフローチャートであり、図6、図10、図12、図13および図15を用いて後述するフローチャートの相対関係について示している。

【0039】まず、図5に示したステップSa1において、デジタルカメラユーザは、通信機能を有するデジタルカメラ1を使って、デジタルカメラユーザが見たい画像をインターネット10を通じて要求する。このときデジタルカメラ1から送られるユーザ要求情報は、サーバコンピュータ5を経由して、各情報提供コンピュータ2, 3, 4, …に供給される。

【0040】次に、ステップSa2において、観光地協会、旅行者、写真家などは、通信機能を有する情報提供コンピュータ2, 3, 4, …を使って、デジタルカメラユーザの要求に応える画像を所有するという意思表示

をインターネット10を通じてサーバコンピュータ5に対して行う。この意思表示に基づいて、ステップSa3でサーバコンピュータ5は、デジタルカメラユーザが要求する画像、および観光地協会や旅行業者あるいは写真家などの宣伝広告に関係する情報をインターネット10を介して各情報提供コンピュータ2, 3, 4, …から収集する。

【0041】さらに、ステップSa4でサーバコンピュータ5は、上記ステップSa3で収集した画像から生成した加工画像をインターネット10を介してデジタルカメラ1に送ることにより、当該収集した画像がデジタルカメラユーザ自身にとって適当であるかどうかの確認（例えば、希望する季節に応じた画像かどうかの確認など）を行う。そして、最後にステップSa5として、サーバコンピュータ5は、上記ステップSa4で確認された、デジタルカメラユーザの希望する季節に応じた画像を、地図情報とリンクさせてインターネット10を介してデジタルカメラ1に提供する。以下に、上記ステップSa1～Sa5の詳細な動作を逐次説明する。

【0042】（画像要求）図6は、上記ステップSa1における詳細な動作を示すフローチャートであり、デジタルカメラユーザが見たい画像をインターネット10を通して表明する際のフローを示す。

【0043】図6において、ステップ101でデジタルカメラ1の電源スイッチ51が投入されると、まずステップ102に示すように、デジタルカメラ1に内蔵されたGPS75および時計82により、デジタルカメラ1を所有するユーザの現在位置および現時刻が既述のように計算され、データメモリ80に記憶される。この現在位置および現時刻の情報は、逐次更新される。

【0044】続いて、ステップ103でデジタルカメラユーザがインターネット接続スイッチ57を押すことにより、無線通信インタフェース76または有線通信インタフェース77からインターネット10を介してサーバコンピュータ5の入出力制御部32にデジタルカメラ1の現在位置および現時刻の情報が送られる。これを受けてサーバコンピュータ5内の制御手段31は、手順をステップ104に進ませることになる。

【0045】ステップ104では、制御手段31が上層の地図データファイルを第5の記憶手段37から読み出し、それを入出力制御部32およびインターネット10を介してデジタルカメラ1に送る。そして、デジタルカメラ1内の無線通信インタフェース76または有線通信インタフェース77を介して、当該地図データファイルに基づく日本地図11（図7参照）をデジタルカメラ1のディスプレイ装置53上に表示させる。この表示をもってステップ111に進み、デジタルカメラユーザからの入力待ち状態になる。

【0046】この入力待ちの状態において、デジタルカメラ1のディスプレイ装置53上には、図7に示すよう

に、日本地図11と共に、地域的な場所の限定を促すメッセージを示すボタン12、いま現在のデジタルカメラ1のユーザ位置を表示させるボタン13、希望する写真画像の撮影季節を指示するボタン14、処理手続きを1つ前に戻す訂正ボタン15、および処理手続きを終わらせる終了ボタン16を表示する。なお、季節ボタン14は、時計82で検出された現時刻（年月日も含む）に対応する季節がデフォルトとして表示される。

【0047】そして、例えばデジタルカメラユーザが現在位置ボタン13をポインティングペン56で選択すれば、ステップ112に進み、そのことが無線通信インタフェース76または有線通信インタフェース77からインターネット10を介してサーバコンピュータ5の入出力制御部32に伝えられる。そして、これを受けてサーバコンピュータ5内の制御手段31は、GPS75で検出されたデジタルカメラユーザの現在位置に対応する下層の地図データファイルを第5の記憶手段37から読み出し、それをインターネット10を介してデジタルカメラ1のディスプレイ装置53上に表示させる。その後、再びステップ104に戻る。

【0048】また、デジタルカメラユーザが、例えば季節ボタン14をポインティングペン56で選択すれば、ステップ113に進み、デジタルカメラユーザの希望する任意の季節を設定することができる。このとき、デジタルカメラユーザが季節ボタン14をポインティングペン56で選択しない場合には、データメモリ80に格納されている時刻から現在の季節を初期設定するものとする。その後、再びステップ104に戻る。また、デジタルカメラユーザが終了ボタン16を選択すれば、ステップ114に進んでインターネット通信が切断され、処理が終了する。

【0049】また、デジタルカメラユーザが、場所設定ボタン12を選択した上で、図7のように表示された日本地図上の長野県の位置にポインティングペン56のペン先を合わせて接触したとする。すると、そのことが無線通信インタフェース76または有線通信インタフェース77からインターネット10を介してサーバコンピュータ5の入出力制御部32に伝えられる。

【0050】そして、これを受けてサーバコンピュータ5内の制御手段31は、第5の記憶手段37に記憶されている中層の地図データファイルのうち、位置指定された長野県の地図データファイルを読み出し、それをインターネット10を介してデジタルカメラ1のディスプレイ装置53上に表示させる。このとき、デジタルカメラ1内の制御手段であるCPU72は、図8に示すように、当該地図データファイルに基づく長野県の地図21とともに、さらに限定的な観光地等に地域を限定するように促すメッセージ22を表示させる（例えば、場所設定ボタン12を目立つように表示させる）制御を行う。

【0051】この図8に示す表示画面に対し、デジタルカメラユーザが、表示地図上の平岡村（仮称）付近にポインティングペン56のペン先を合わせて入力したとすると、そのことが無線通信インタフェース76または有線通信インタフェース77からインターネット10を介してサーバコンピュータ5の入出力制御部32に伝えられる。そして、これを受けてサーバコンピュータ5内の制御手段31は、第5の記憶手段37に記憶されている下層の地図データファイルのうち、位置指定された平岡村の地図データファイルを読み出し、それをインターネット10を介してデジタルカメラ1のディスプレイ装置53上に表示させる。

【0052】このように、ステップ111の入力待ち状態において場所設定ボタン12が選択され、地図表示が指示されたときは、サーバコンピュータ5内の制御手段31は、ステップ105に示すように、その指示入力がかどうかを判断する。そして、下層地図を示すものでない場合は、ステップ106に進み、デジタルカメラユーザが写真を撮りたい場所を更にポインティングペン56で限定させる。一方、下層地図を示すものである場合は、ステップ108に進むよう制御する。

【0053】ステップ108でサーバコンピュータ5内の制御手段31は、デジタルカメラ1のユーザに、上記ステップ111～113において入力したユーザ要求情報の内容についての確認を行う。このときディスプレイ装置53上に表示される画面の例を、図9に示す。ここで、デジタルカメラユーザがディスプレイ装置53上に表示された内容で了解できず、訂正を行う場合には、訂正ボタン23を押せば良い。この場合は、ステップ109からステップ104に戻り、地図情報がディスプレイ装置53上に再び表示されることになる。

【0054】一方、デジタルカメラユーザがディスプレイ装置53上に表示された内容で了解できる場合には、了承ボタン24を押せば良い。この場合、サーバコンピュータ5内の制御手段31は、ステップ109からステップ110に処理を進めるように制御する。ステップ110において制御手段31は、写真を撮りたい場所として観光地名、写真を撮りたい季節、およびデジタルカメラユーザの現在の場所などをインターネット10を介してサーバコンピュータ5が入手し、その入手した情報をユーザ要求情報として認識するよう制御する。

【0055】以上で、デジタルカメラ1のユーザが見たい画像をインターネット10を通して表明する処理は終了する。

【0056】（画像所持表明）図10は、図5のステップSa2における詳細な動作を示すフローチャートであり、上述のように発行されたユーザ要求情報に対して、デジタルカメラユーザの希望する画像を持っているという意思情報を情報提供コンピュータ2、3、4、…から

集めるフローを示す。

【0057】まず、ステップ201でサーバコンピュータ5内の制御手段31は、デジタルカメラ1からのユーザ要求情報を受信し、ステップ202でそのユーザ要求情報に従って第1の記憶手段33の内容を変更するよう制御する。さらに、制御手段31は、ステップ203において、上記第1の記憶手段33に蓄積されたユーザ要求情報を各情報提供コンピュータ2、3、4、…に向けてインターネット10を通してブロード配信するよう制御する。この配信の際、制御手段31は、第3の記憶手段35に蓄積されている登録者番号を読み出して、その登録者番号に対応する登録者（観光地協会、旅行者、写真家など）に対して、上記のブロード配信を行うよう制御する。

【0058】次に、ユーザ要求情報のブロード配信を受けた観光地協会、旅行者、写真家等が所有する情報提供コンピュータ2、3、4、…は、ステップ204でこのユーザ要求情報を受信する。そして、ステップ205において情報提供コンピュータ2、3、4、…は、その所有者である観光地協会、旅行者、写真家等に対してユーザ要求情報を受信した旨を知らせることを目的として、自己が有するCRTやLCD等の表示部にユーザ要求情報の内容を表示する。

【0059】このとき情報提供コンピュータ2、3、4、…の表示部に表示される画面の例を、図11に示す。図11に示すように、情報提供コンピュータ2、3、4、…の表示画面上にはユーザ要求情報が符号81のように表示される。この際、観光地協会や旅行者あるいは写真家などに、ユーザ要求情報に対して提供可能な情報を入力するように促す情報も、符号82のように表示される。

【0060】次に、ステップ206において情報提供コンピュータ2、3、4、…は、ユーザ要求情報に適当に応えることが可能な画像が何らかの記憶手段に蓄積されていないかどうかを検索する。この場合の検索は、情報提供コンピュータ2、3、4、…が自己の記憶手段に蓄積されているファイル上で検索を行う手段であっても良いし、他のコンピュータとリンクして当該他のコンピュータの記憶手段に蓄積されているファイル上で検索を行う手段であっても良い。また、観光地協会、旅行者、写真家などが自らの手作業によって蓄積されているファイル上で検索を行う手段等であっても良い。

【0061】そして、ステップ207で、上記のような検索結果に基づき、ユーザ要求情報に適当に応えることが可能な画像ファイルを所有しているかどうかを判断する。ここで、そのような画像ファイルを所有している場合には、その情報提供コンピュータ2、3、4、…は、ステップ208で、該当する画像がある旨をサーバコンピュータ5に向けてインターネット10を通して送信する。かかる送信に際し、情報提供コンピュータ2、3、

4, …は、その画像に関する観光地名、撮影時期、撮影場所、撮影角度等の情報、および登録者番号を提供情報として認識し、サーバコンピュータ5に向けて送信するものとする。

【0062】次に、ステップ209において、サーバコンピュータ5内の制御手段31は、上記のような内容に基づく提供情報をインターネット10を介して受信するよう制御する。そして、制御手段31は、ステップ210で、その受信した提供情報に従って第2の記憶手段34の内容を変更するよう制御する。このサーバコンピュータ5による提供情報の受信および第2の記憶手段34の内容変更により、観光地協会、旅行者、写真家等がユーザ希望の画像を所持する旨を表明する処理は完了する。

【0063】(画像ファイル収集)図12は、図5のステップSa3における詳細な動作を示すフローチャートであり、デジタルカメラユーザの希望するような画像が、サーバコンピュータ5にいかんして蓄積されるかについてのフローを示す。

【0064】図12において、ステップ301でサーバコンピュータ5内の制御手段31は、第7の記憶手段40に記憶されている制御プログラムに基づき、第1の記憶手段33からユーザ要求情報を読み出すとともに、各情報提供コンピュータ2, 3, 4, …より供給された提供情報を第2の記憶手段34から順次読み出し、当該ユーザ要求情報と各提供情報とをデータベースとして比較検討する。そして、この比較検討の結果、制御手段31は、ユーザ要求情報の1つあるいは2つ以上の適当な条件、例えばデジタルカメラユーザの要求する撮影場所から半径10Km以内で撮影したこと、あるいはデジタルカメラユーザが指定した季節に限るなどの条件を満たすような提供情報を検索して選択するとともに、この選択結果に基づき第2の記憶手段34の内容を変更するよう制御する。

【0065】次に、ステップ302において制御手段31は、選択された提供情報の発信元である情報提供コンピュータとして登録された登録者番号ごとに、選択された旨を選択情報として生成する。また、ステップ303において制御手段31は、選択された提供情報の発信元である情報提供コンピュータが、後述する宣伝広告に関する情報をサーバコンピュータ5に向けてインターネット10を通して送信する際に、その許可判断の要件となるいわゆるパスワードである宣伝許可情報を生成するよう制御する。そして、ステップ304で制御手段31は、上記生成した選択情報および宣伝許可情報を、選択結果に基づく登録者番号を第3の記憶手段35から読み出した上で該当する情報提供コンピュータに向けてインターネット10を通して送信する。

【0066】選択された提供情報の発信元である情報提供コンピュータは、ステップ305において、サーバコ

ンピュータ5から送られてくる選択情報および宣伝許可情報を受信する。その後、ステップ306で情報提供コンピュータは、その所有者である観光地協会、旅行者、または写真家などに選択情報を受けたことを告知するために、ディスプレイ上に表示する。つまり、デジタルカメラユーザが希望するような画像に対して当該情報提供コンピュータの所持する画像が適当な条件を満たしたこと、例えば、デジタルカメラユーザの要求する撮影場所から半径10Km以内で撮影したこととか、あるいはデジタルカメラユーザが指定した季節に限るなどの条件を満たした旨を観光地協会等が所持する情報提供コンピュータのディスプレイ上に表示する。

【0067】次に、ステップ307で情報提供コンピュータは、提供情報に対応する画像情報を検索するとともに、自己の業務にかかる宣伝広告、例えば観光地協会であれば当観光地の宿舎の宿泊状況、問い合わせ先、あるいは交通手段案内等を作成もしくはファイルから読み出す。これは、観光地協会、旅行者、または写真家が手作業で検索作成する場合であってもよい。これにより次のステップ308に進むことになる。

【0068】ステップ308において情報提供コンピュータは、先にサーバコンピュータ5より受けた宣伝許可情報に基づいて、提供情報に対応する画像情報および宣伝広告情報をインターネット10を通してサーバコンピュータ5に送信する。この際、情報提供コンピュータは、画像情報には登録者番号および撮影場所を示すデータを電子透かしで埋め込むよう制御する。

【0069】(画像送信)図13は、図5のステップSa4における詳細な動作を示すフローチャートであり、これからデジタルカメラ1に送信される画像が、デジタルカメラユーザが撮影を望むような季節に応じた画像であるか否かの確認をいかんに行うかを示す。この過程を踏むことで、デジタルカメラユーザは、収集された画像情報の中に仮にデジタルカメラユーザの意思に反するような画像があったとしても、当該画像を選択せずに済むことになる。

【0070】また、画像を提供する観光地協会、旅行者、あるいは写真家などは、自己の提供する画像が、デジタルカメラユーザが望む画像に合致する場合にのみ広告宣伝を行うことができるので、収集される画像の品質の向上が図られることになる。なぜならば、画像を提供する観光地協会、旅行者、あるいは写真家などは、自己の宣伝広告を行うためにはデジタルカメラユーザの希望に叶う優れた画像であることが必要とされる。その結果、観光地協会、旅行者、あるいは写真家などは、それを実現するよう自主的に画像の品質向上に努めようとするのが人情だからである。

【0071】図13において、まず、ステップ402においてサーバコンピュータ5内の制御手段31は、情報提供コンピュータ2, 3, 4, …の何れかより送られて

くる画像情報および宣伝広告情報を入出力制御部 32 により受信するよう制御する。次に、制御手段 31 は、ステップ 403 で、受信した宣伝広告情報に基づき、第 6 の記憶手段 38 に蓄積される宣伝広告ファイルを変更するよう制御する。また、制御手段 31 は、受信した画像情報に基づき、第 4 の記憶手段 36 に蓄積される画像ファイルを変更するよう制御する。

【0072】さらに制御手段 31 は、ステップ 404 で、受信した画像情報を加工して、例えばサブサンプルや画像データの間引きにより情報を圧縮することで、画像を縮小する処理を行うよう制御する。そして、制御手段 31 は、ステップ 405 においてその生成した加工画像情報をデジタルカメラ 1 に向けて入出力制御部 32、インターネット 10 を通して送信するよう制御する。

【0073】デジタルカメラ 1 は、ステップ 406 で、サーバコンピュータ 5 から送信される加工画像情報を、無線通信インタフェース 76 や有線通信インタフェース 77 を介して受信する。そして、ステップ 407 で、CPU 72 の演算処理に基づいて、その受信した加工画像情報による画像をデジタルカメラ 1 のディスプレイ装置 53 上に表示する。このときのデジタルカメラ 1 のディスプレイ装置 53 の画面表示例を、図 14 に示す。

【0074】図 14 においては、加工画像情報による複数の画像 44 を表示している。さらに、ディスプレイ装置 53 上に一度に表示することができない複数の加工画像を含む場合には、プログラムメモリ 73 内のプログラムに基づき、ディスプレイ装置 53 上にスクロールボタン 41a および 41b を配するよう表示させる。そして、デジタルカメラユーザがポインティングペン 56 のペン先をスクロールボタン 41b に接触させた場合には次の画像表示を行うように画面をスクロールさせ、同様にスクロールボタン 41a に接触させた場合には前の画像表示を行うように画面をスクロールさせる。

【0075】また、図 14 に示すように、ディスプレイ装置 53 上には加工画像 44 の表示と共に、デジタルカメラユーザに対して、ユーザ自身が希望する画像であるか否かの確認を行うように促す表示 42 も行われる（図 13 のステップ 408）。ここで、例えば、デジタルカメラユーザが符号 43 で示す画像を選択するべくポインティングペン 56 のペン先を当該符号 43 の画像に合わせたとする（図 13 のステップ 409）。この場合、当該画像を選択した旨の情報が所定の符号化によりデータメモリ 80 に保存され、次のステップ 410 では、当該データメモリ 80 に蓄積されたデータに基づき CPU 72 で演算処理が行われて画像請求情報が生成され、サーバコンピュータ 5 にインターネット 10 を通して送信される。

【0076】次に、ステップ 411 においてサーバコンピュータ 5 内の制御手段 31 は、画像請求情報を入出力制御部 32 により受信するよう制御する。さらに、ステ

ップ 412 で制御手段 31 は、受信した画像請求情報に基づいて、当該画像請求情報に対応する画像ファイルを第 4 の記憶手段 36 の中から検索する。また、その検索した画像情報に電子透かしとしてリンクされた登録者番号に基づいて、第 6 の記憶手段 38 に蓄積された宣伝広告ファイルを検索するとともに、同様に電子透かしとしてリンクされた撮影場所を示す (x, y) データに対応する地図データファイルを第 5 の記憶手段 37 の中から検索するよう制御する。そして、これら画像情報、宣伝広告情報および地図情報をデジタルカメラ 1 に向けてインターネット 10 を通して送信するよう制御する。

【0077】これにより、これから送信される画像がデジタルカメラユーザが撮影を望むような季節に応じた画像であるか否か確認した上で、所望の画像のみをデジタルカメラ 1 により受信することができる。

【0078】（地図情報とリンクした画像配信）図 15 は、図 5 のステップ S a 5 における詳細な動作を示すフローチャートであり、デジタルカメラユーザが、地図情報がリンクされた画像情報の配信をいかにして受けるかについて示す。

【0079】まず、ステップ 501 においてデジタルカメラ 1 は、画像情報、宣伝広告情報および地図情報を無線通信インタフェース 76 あるいは有線通信インタフェース 77 により受信する。そして、ステップ 502 においてデジタルカメラ 1 は、プログラムメモリ 73 に記憶されたプログラムに基づいて、画像情報による写真画像をディスプレイ装置 53 上に表示する。このときのデジタルカメラ 1 のディスプレイ装置 53 の画面例を、図 16 に示す。

【0080】図 16 において、デジタルカメラユーザが選択した画像は、デジタルカメラユーザが見やすいようにサブサンプル処理されずに大きな状態で表示される

（符号 61）。また、CPU 72 は、符号 62～64 のような画像情報に関する所定のデータ（撮影場所、季節など）がディスプレイ装置 53 上に表示されるよう制御する。また、65 は撮影場所の地図を表示させるためのボタン、66 は図 14 の画面に戻るような制御を行うためのボタンである。

【0081】ここで、デジタルカメラユーザが画像 61 のような写真を撮ることができる場所を具体的に知りたいと思ったとする。この場合は、図 15 のステップ 503 において、デジタルカメラユーザがボタン 65 にポインティングペン 56 のペン先を合わせると、プログラムメモリ 73 に記憶されたプログラムに従って、データメモリ 80 に一時的に蓄積された宣伝広告情報と地図情報とがディスプレイ装置 53 上に表示される（ステップ 504, 505）。このときのディスプレイ装置 53 の表示画面の例を、図 17 に示す。

【0082】図 17 に示すように、写真画像 91 を撮影した場所が符号 91 のように表示されるとともに、観光

地協会、旅行業者、写真家などの宣伝広告情報が符号92のように表示される。このようにして、デジタルカメラユーザが所望するような季節に応じた写真画像は、地図情報にリンクされてデジタルカメラユーザに提供される。さらに、携帯メモリインタフェース78を介して、あるいは無線通信インタフェース76や有線通信インタフェース77を介して図示しないプリンタに画像データを送信することで、高画質な画像を直ぐにプリントアウトすることもできる。

【0083】以上説明したように、本実施形態によれば、デジタルカメラ1のユーザは、撮影を希望するような写真画像を簡単な作業で確実に入手することが可能となる。さらに、デジタルカメラ1のユーザは、当該入手した写真画像が地図情報とリンクされているために、希望する写真を撮影するのに適した場所を地図情報を用いて的確に認知することが可能となる。また、上述の実施形態では説明していないが、地図情報の他にも撮影角度などの撮影テクニックに関する情報を画像情報にリンクして提供するようにすれば、どのように撮影をしたら絵葉書のように綺麗な写真がとれるのかを容易に理解することができる。

【0084】また、観光地協会、旅行業者、あるいは写真家などは、自己が所有する画像をインターネット10を通して広範囲に提供することが可能となるとともに、自己が所有する画像に興味を示すユーザに対して限定的な宣伝広告をすることを実現できる。さらに言えば、本実施形態のデジタルカメラ1は、磁気や光磁気あるいはIC等を利用した携帯型メモリを装着可能な機能を有しているため、プリント手段と併用すれば好みの時刻や場所で画像をプリントアウトすることができるというメリットもある。

【0085】なお、上記実施形態では、写真撮影を行うユーザが使用する情報通信端末としてデジタルカメラ1を使用した。本発明を実施するにはデジタルカメラ1以外の通信機器を情報通信端末として使用することも可能である。例えば、データ通信機能を持ち、電話回線や無線を利用してデータの送受信を行うことが可能である、システム手帳を小型のコンピュータに置き換えた機器（携帯情報端末、PDAなど）であっても良い。また、デジタルカメラ付きの携帯電話、さらにはスチールカメラとこれら情報通信端末との組み合わせなどであっても本発明を実施することが可能である。

【0086】また、上記実施形態では、デジタルカメラ1からサーバコンピュータ5に対して所望の写真画像の要求があったときに、サーバコンピュータ5が各情報提供コンピュータ2、3、4、…にアクセスして条件を満たす画像情報をリアルタイムに検索して提供するようにしているが、本発明はこのような形態に限定されるものではない。例えば、各情報提供コンピュータ2、3、4、…が提供する写真画像や宣伝広告をサーバコンピュ

ータ5にあらかじめ登録しておき、デジタルカメラ1からサーバコンピュータ5に対して所望の写真画像の要求があったときに、サーバコンピュータ5が事前に登録されている各写真画像の中から条件を満たす画像情報を検索して提供するようにしても良い。また、この登録は、リアルタイムに検索して提供される情報を順次記憶することによって行っても良い。

【0087】また、デジタルカメラユーザに提供された写真画像をデジタルカメラユーザ自身が評価し、その結果をサーバコンピュータ5あるいは各情報提供コンピュータ2、3、4、…にフィードバックするようにしても良い。このようにすれば、優れた評価を得るために、画像を提供する観光地協会、旅行業者、あるいは写真家などは、デジタルカメラユーザの希望に叶う優れた画像を提供するよう更なる画像の品質向上に努めようとするので、デジタルカメラユーザに提供される画像の品質の更なる向上を図ることができる。

【0088】（本発明の他の実施形態）上述した実施形態の機能を実現するべく各種のデバイスを動作させるように、該各種デバイスと接続された装置あるいはシステム内のコンピュータに対し、上記実施形態の機能を実現するためのソフトウェアのプログラムコードを供給し、そのシステムあるいは装置のコンピュータ（CPUあるいはMPU）に格納されたプログラムに従って上記各種デバイスを動作させることによって実施したものも、本発明の範疇に含まれる。

【0089】また、この場合、上記ソフトウェアのプログラムコード自体が上述した実施形態の機能を実現することになり、そのプログラムコード自体、およびそのプログラムコードをコンピュータに供給するための手段、例えばかかるプログラムコードを格納した記録媒体は本発明を構成する。かかるプログラムコードを記憶する記録媒体としては、例えばフロッピーディスク、ハードディスク、光ディスク、光磁気ディスク、CD-ROM、磁気テープ、不揮発性のメモ리카ード、ROM等を用いることができる。

【0090】また、コンピュータが供給されたプログラムコードを実行することにより、上述の実施形態の機能が実現されるだけでなく、そのプログラムコードがコンピュータにおいて稼働しているOS（オペレーティングシステム）あるいは他のアプリケーションソフト等と共同して上述の実施形態の機能が実現される場合にもかかるプログラムコードは本発明の実施形態に含まれることは言うまでもない。

【0091】さらに、供給されたプログラムコードがコンピュータの機能拡張ボードやコンピュータに接続された機能拡張ユニットに備わるメモリに格納された後、そのプログラムコードの指示に基づいてその機能拡張ボードや機能拡張ユニットに備わるCPU等が実際の処理の一部または全部を行い、その処理によって上述した実施

形態の機能が実現される場合にも本発明に含まれることは言うまでもない。

【0092】

【発明の効果】以上説明したように本発明によれば、画像情報の提供を受けるユーザは、撮影を希望するような画像情報を簡単な作業で確実に入手することが可能となる。さらに、画像情報に地図情報をリンクするように構成した場合は、ユーザは、希望する写真を撮影するのに適した場所を地図情報を用いて的確に認知することが可能となる。また、画像情報に季節情報をリンクするように構成した場合は、ユーザは、所望する季節の画像情報を自己の判断の元で選択して得ることができる。また、画像情報の提供者にとっては、自己が所有する画像情報を広範囲に提供することが可能となる。さらに、画像情報に広告情報をリンクするように構成した場合は、画像情報提供者は、自己が所有する画像に興味を示すユーザに対して限定的な宣伝広告をすることができる。以上により、写真を撮影する者が絶好の写真撮影に関する情報を簡単かつ確実に入手することができ、撮影者は所望する写真撮影を簡単に行うことができるようになる。また、観光地協会や旅行会社あるいは写真家などの画像提供者は、その画像情報に興味のある者に限定して逐一な広告宣伝を効率的に行うことができるようになる。

【図面の簡単な説明】

【図1】本実施形態によるネットワークシステムの構成を示すブロック図である。

【図2】本実施形態によるデジタルカメラの外形を示す図である。

【図3】本実施形態によるデジタルカメラの回路構成を示すブロック図である。

【図4】本実施形態によるサーバコンピュータの構成を示すブロック図である。

【図5】本実施形態によるデジタルカメラ、サーバコンピュータおよび情報提供コンピュータを含むシステム全体の処理の流れを示すフローチャートである。

【図6】図5のステップS a 1における詳細な動作を示すフローチャートである。

【図7】本実施形態によるユーザ要求情報の入力について説明するための図である。

【図8】本実施形態によるユーザ要求情報の入力について説明するための図である。

【図9】本実施形態によるユーザ要求情報の入力について説明するための図である。

【図10】図5のステップS a 2における詳細な動作を示すフローチャートである。

【図11】本実施形態による提供情報の入力について説明するための図である。

【図12】図5のステップS a 3における詳細な動作を示すフローチャートである。

【図13】図5のステップS a 4における詳細な動作を示すフローチャートである。

【図14】本実施形態による加工画像情報の確認について説明するための図である。

【図15】図5のステップS a 5における詳細な動作を示すフローチャートである。

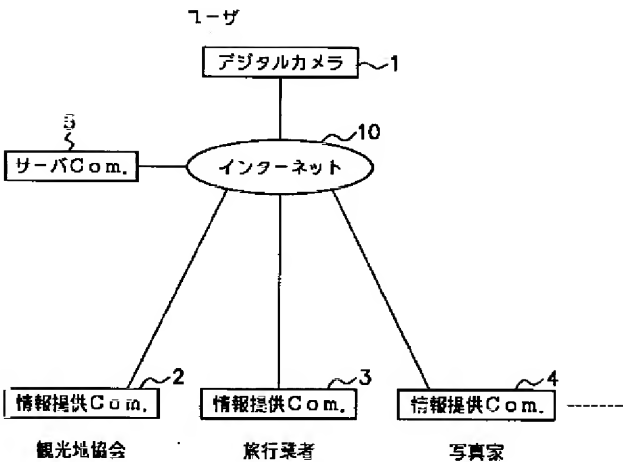
【図16】本実施形態により提供される画像情報について説明するための図である。

【図17】本実施形態により提供される地図情報と宣伝広告情報について説明するための図である。

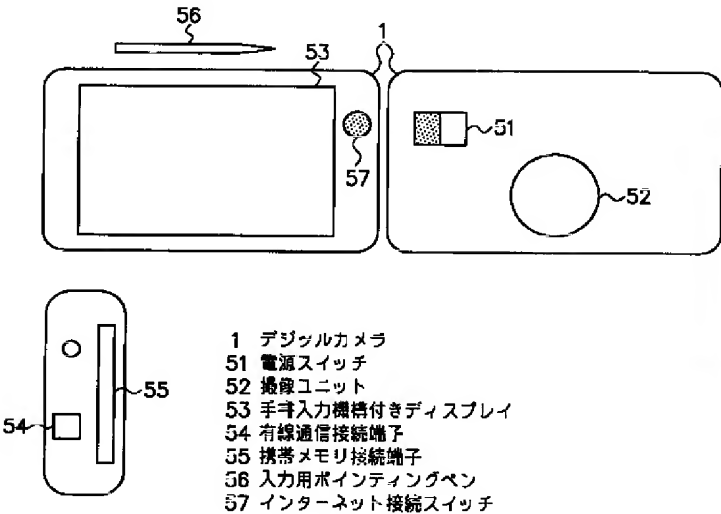
【符号の説明】

- 1 デジタルカメラ
- 2, 3, 4 情報提供コンピュータ
- 5 サーバコンピュータ
- 10 インターネット
- 12 場所設定ボタン
- 13 現在位置ボタン
- 14 季節ボタン
- 15 訂正ボタン
- 16 終了ボタン
- 31 制御手段
- 32 入出力制御部
- 33 第1の記憶手段（ユーザ要求ファイル）
- 34 第2の記憶手段（提供情報ファイル）
- 35 第3の記憶手段（登録者データファイル）
- 36 第4の記憶手段（画像ファイル）
- 37 第5の記憶手段（地図データファイル）
- 38 第6の記憶手段（宣伝広告ファイル）
- 40 第7の記憶手段（制御プログラム）
- 53 手書入力機構付きディスプレイ装置
- 56 ポインティングペン
- 57 インターネット接続スイッチ
- 72 CPU
- 73 プログラムメモリ
- 75 GPS
- 76 無線通信インタフェース
- 77 有線通信インタフェース
- 78 携帯メモリインタフェース
- 80 データメモリ
- 82 時計

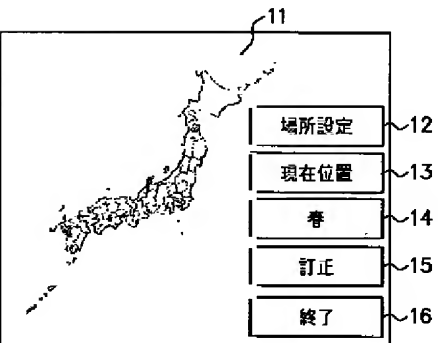
【図1】



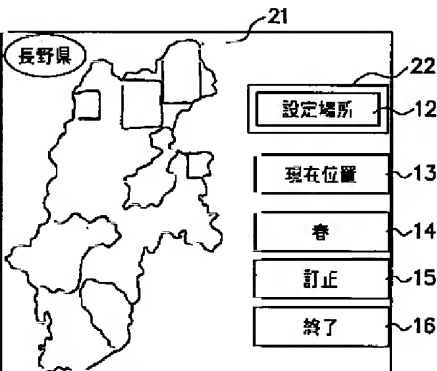
【図2】



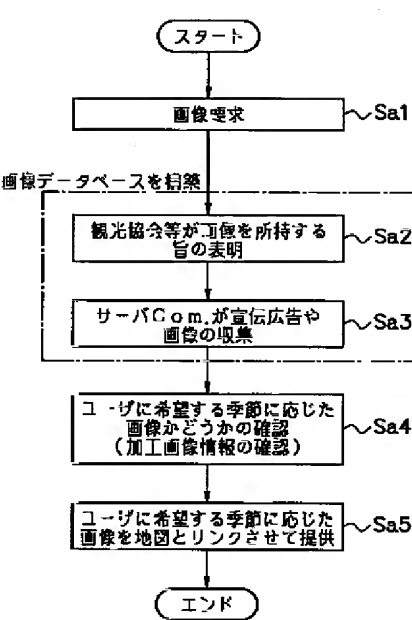
【図7】



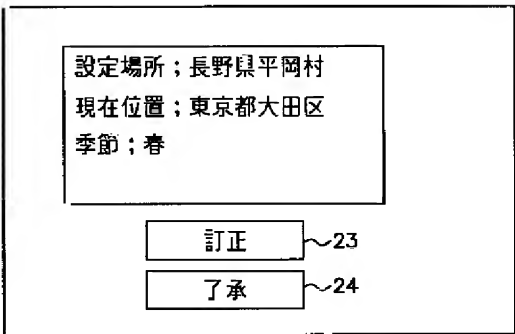
【図8】



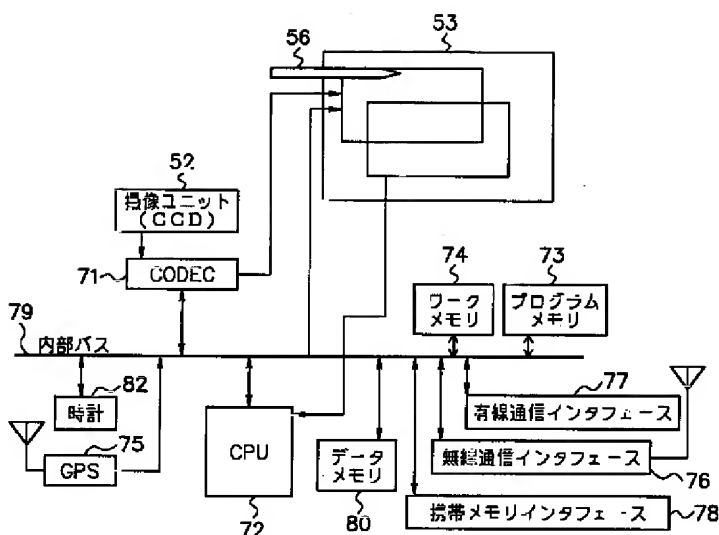
【図5】



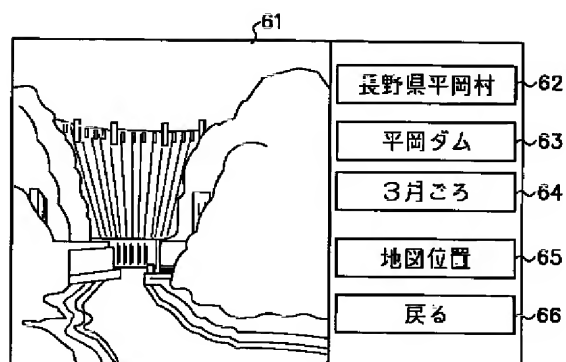
【図9】



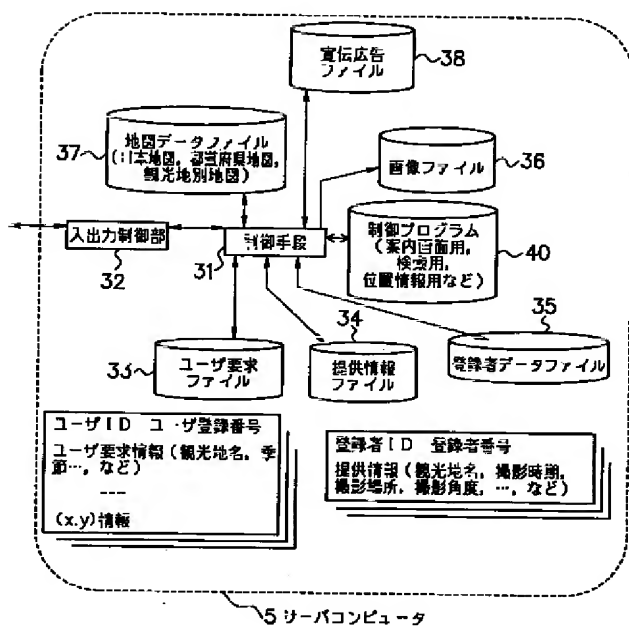
【図3】



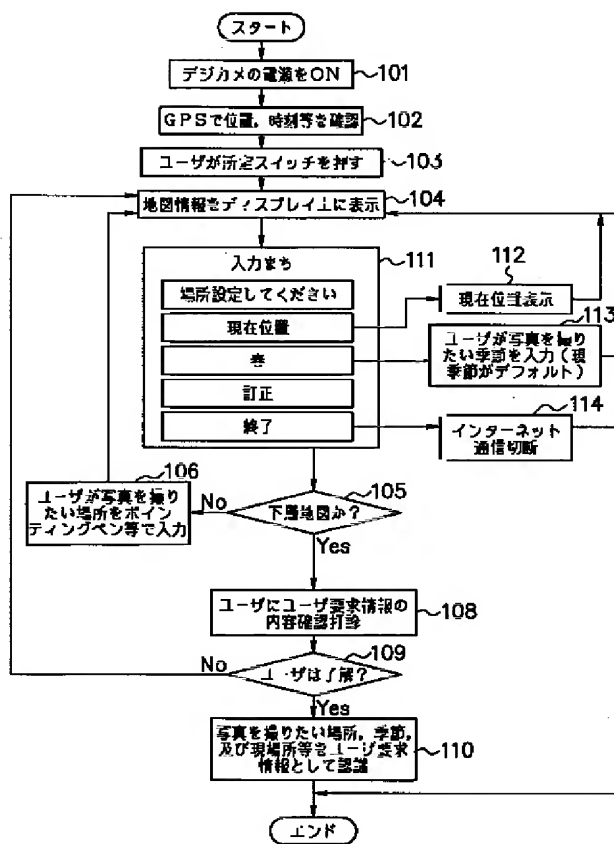
【図16】



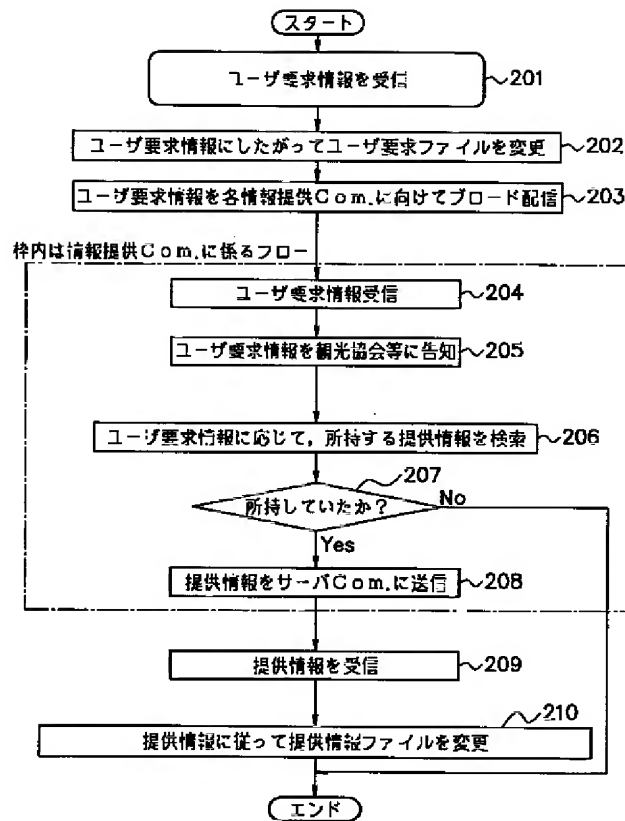
【図4】



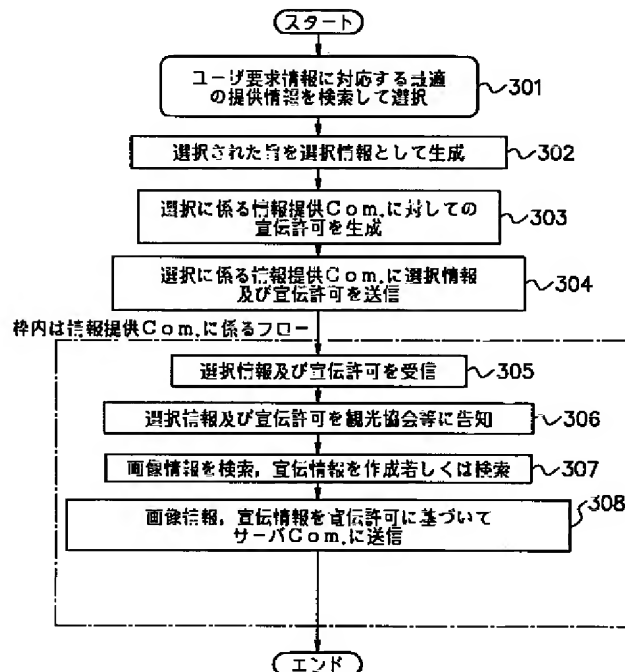
【図6】



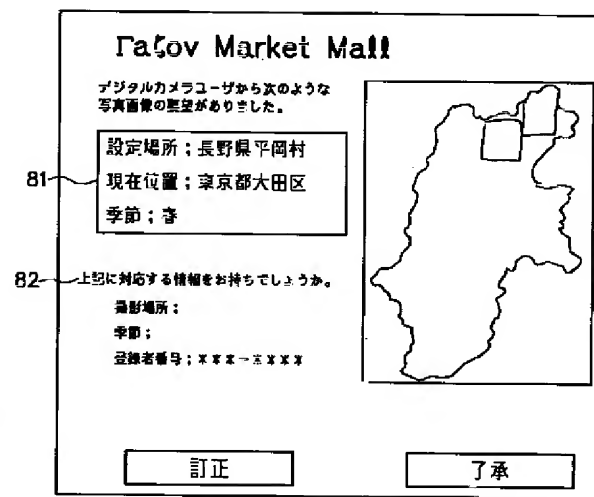
【図10】



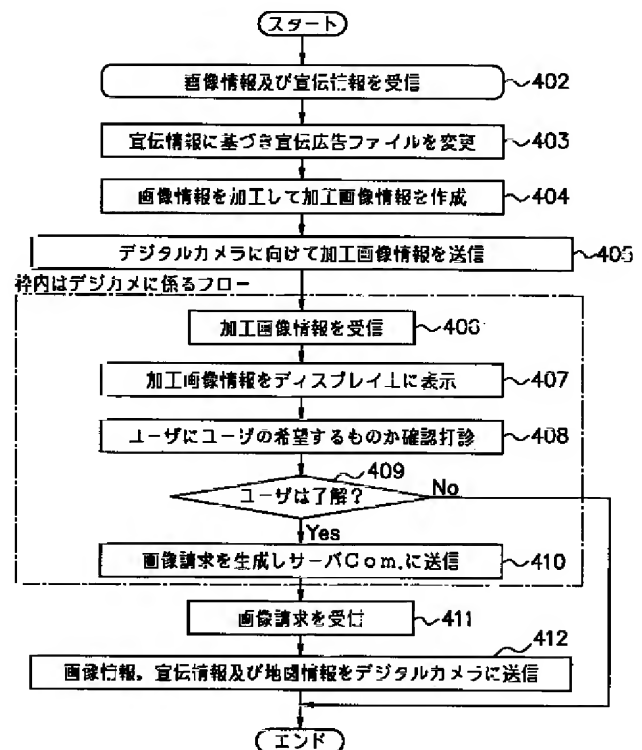
【図12】



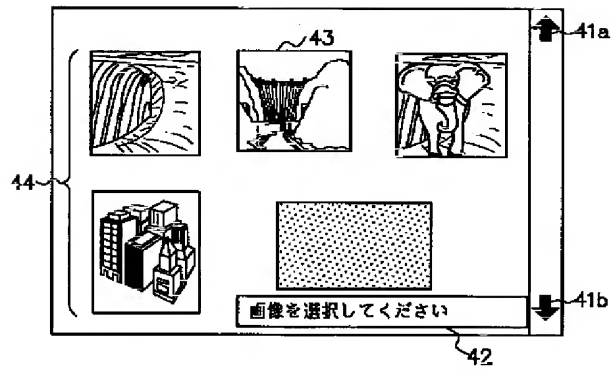
【図11】



【図13】



【図14】



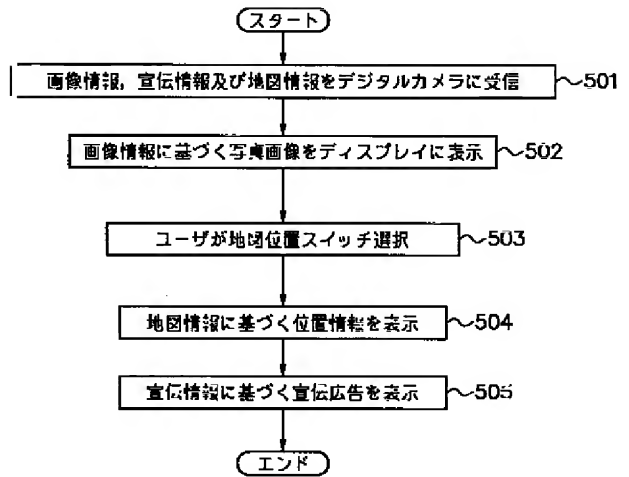
【図17】

地図 位置情報

はじめまして、***観光協会です。
今日は絶好の撮影日ですね。ご宿泊は、***観光協会
に是非お問い合わせ下さい。
連絡方法 電話番号 ***-**-*****

戻る

【図15】



PATENT ABSTRACTS OF JAPAN

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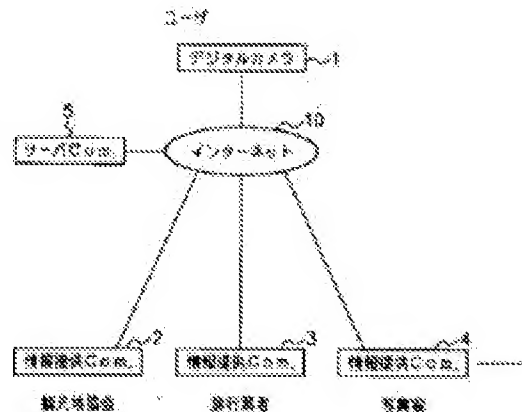
(72)Inventor : UEJIMA JUNICHI
KUROIWA SOUGO

(54) INFORMATION PROCESSOR, NETWORK SYSTEM, IMAGE INFORMATION PROVIDING METHOD, AND RECORDING MEDIUM

(57)Abstract:

PROBLEM TO BE SOLVED: To take a picture as a photographer desires by enabling the person who takes a picture to easily and securely obtain information on the best photography.

SOLUTION: This network system has on the Internet 10 a digital camera 1 which is provided with image information, information providing computers 2, 3, 4... which provide the image information, and a server computer 5 which mediates among them. The digital camera 1 issues user request information regarding image information to be provided to the server computer 5, which gathers image information meeting the conditions of the issued user request information from the information providing computers 2, 3, 4... and provides the gathered image information for the digital camera 1, so that a user who is provided with image information can securely obtain a desirable photographic image to be photographed



TECHNICAL FIELD

[Field of the Invention] This invention is used for the system for which picture information is especially exchanged via networks, such as the Internet, about an information processor, a network system, a picture information provision method, and a recording medium, and is preferred.

EFFECT OF THE INVENTION

[Effect of the Invention]As explained above, according to this invention, the user who receives offer of picture information becomes possible [that picture information which wishes to take a photograph comes to hand certainly by easy work]. When it constitutes so that map information may be linked to picture information, a user becomes possible [recognizing a place suitable for taking the photograph to wish exactly using map information]. When it constitutes so that season information may be linked to picture information, the user can choose and get the picture information of the season for which it asks under self judgment. For the donor of picture information, it becomes possible to provide broadly the picture information which self owns. When it constitutes so that advertisement information may be linked to picture information, the picture information donor can carry out restrictive advertisement and promotion to the picture which self owns to the user who shows interest. By the above, those who take a photograph can obtain the information about capital photography simply and certainly, and the photography person can perform now easily photography for which it asks. Image suppliers, such as a tourist resort association, a travel company or a photographer, can limit to those who are interested in the picture information, and can perform advertisement [in detail] now efficiently.

TECHNICAL PROBLEM

[Problem(s) to be Solved by the Invention]However, in order for the information for which those who take a photograph wish to come to hand suitably, in the method which has investigated the picture postcard and the atlas enough in detail, and carries out them as mentioned above, a photography person's work becomes very complicated, and it is intolerable. On the other hand, although there is also a method whose photographing location is in a tourist resort association etc. in between by telephone, it is difficult to tell clearly to a fine place in the inquiry by a telephone. the situation where the tourist resort association who received the inquiry does not have suitable information with him -- about -- a number thinks. In such a case, only the photography which balances at time the labor which the photography person invested produces the inconvenience of becoming impossible in many cases.

[0004]When it was going to take a photograph, and taking a photograph how, there were [even if the detailed photographing location was found,] many things which are not understood whether it can take a beautiful photograph like a picture postcard. Therefore, even if it went to the place where the picture postcard was photoed with much trouble, there was a problem that the beautiful photograph which a photography person wishes could not be taken.

[0005]It accomplishes in order to solve such a problem, and those who take a photograph make the information about capital photography available simply and certainly, and an object of this invention is to enable it to perform photography for which a photography person asks. An object of this invention is also for a tourist resort association, a travel agent or a photographer, etc. to limit to those who are interested in the tourist resort, and to enable it to perform advertisement [in detail] efficiently.

MEANS

[Means for Solving the Problem] This invention is characterized by an information processor comprising the following.

A request input means to input users request information about picture information which receives offer.

An image collecting means which collects picture information which satisfies conditions of the above-mentioned users request information that it was inputted by the above-mentioned request input means from the offer side of the picture information concerned.

A picture providing means which provides a side which receives offer of described image information with picture information collected by a described image collecting means.

[0007] In a mode of others of this invention, picture information collected by a described image collecting means is processed, processed-images information for a check is generated, and it has further a verifying means which checks to a near user who receives offer of described image information using the processed-images information concerned.

[0008] In a mode of others of this invention, the above-mentioned users request information includes information about a place of a picture which a user demands. In this case, a described image providing means relates with map information corresponding to a place of a described image picture information collected by a described image collecting means, and it may be made to provide it.

[0009] In a mode of others of this invention, the above-mentioned users request information includes information about a season of a picture which a user demands. In this case, a described image providing means relates with season information picture information collected by a described image collecting means, and it may be made to provide it.

[0010] In a mode of others of this invention, a described image providing means is related with advertisement information sent from the offer side of described image information, and provides picture information collected by a described image collecting means.

[0011] This invention a network system of this invention, A network system which has on a network the 1st terminal that receives offer of picture information, the 2nd terminal that performs offer of picture information, and the 3rd terminal that performs agency between the 1st terminal of the above and a terminal of the above 2nd is characterized by comprising:

A demand issuing means which publishes users request information about picture information which receives offer from the 1st terminal of the above to the 3rd terminal of the above.

An image collecting means which collects picture information which is satisfied with the 3rd terminal of the above of conditions of the above-mentioned users request information in response to the above-mentioned users request information published by the above-mentioned demand issuing means from the 2nd terminal of the above.

A picture providing means which provides the 1st terminal of the above with picture information which the 3rd terminal of the above collected from the 2nd terminal of the above.

[0012] A picture information provision method of this invention inputs users request information about picture information which receives offer from a side which receives offer of described image information, Picture information which satisfies conditions of the above-mentioned users request information inputted [above-mentioned] is collected from the offer side of the picture information

concerned, and a side which receives offer of described image information was provided with picture information which collected [above-mentioned].

[0013]A program for a recording medium in which this invention computer reading is possible to operate a computer as any 1 paragraph of Claims 1-23 as each means of a description, Or a program for making a computer perform procedure of a picture information provision method of a description was recorded on any 1 paragraph of Claims 24-29.

[0014]According to this invention constituted as mentioned above, self transmits users request information about picture information which asks for photography via a network, and a user who receives offer of picture information receives offer of picture information sent as the response. On the other hand, a donor of picture information provides picture information which an information provider owns while providing self provided information about users request information via a network. Therefore, if it is made a user, picture information for which it asks only by easy operation can be obtained certainly.

[0015]Since he is trying to pass through a stage where the user itself checks whether it is a picture which uses and asks for processed-images information according to the feature of others of this invention when receiving offer of picture information, a user becomes possible [obtaining intuitive more effective picture information].

[0016]If the user can get picture information which receives offer by the ability to relate it with map information, season information, or advertisement information according to the feature of others of this invention and it is made a user, it will become possible for picture information and accompanying information relevant to it to come to hand promptly and exactly. Since picture information is related with a season, the user can choose and get picture information of a season for which it asks under self judgment. And since offer of these information is performed without a time lag, both sides of a user and an information provider have a merit which was not obtained in picture information offer or collection to the former.

[0017]

[Embodiment of the Invention]Hereafter, one embodiment of this invention is described based on Drawings. In the embodiment described below, those who take a photograph use a digital camera as a photographing device, and let the digital camera concerned be what has possible accessing the Internet through a communication line so that it may function as an information-and-telecommunications terminal. Therefore, in explanation of this embodiment, those who take a photograph will be called digital camera user, and the information processor which the digital camera user concerned uses will be called digital camera.

[0018](Entire configuration) The composition of the whole network system of this embodiment is first explained with reference to Drawings. Drawing 1 is a block diagram showing the composition of the network system by this embodiment. In this drawing 1, via the communication function, the digital camera 1 is constituted so that connection with networks, such as the Internet 10, is possible. A digital camera user can be come to hand via the Internet 10 by the information about taking [which a digital camera user wishes] as well as taking a photograph using this digital camera 1.

[0019]The offer-of-information computers 2, 3, and 4 and -- are various kinds of information processing terminals, and are connected to the Internet 10 via a communication function. A tourist resort association, a travel agent, a photographer, etc. use these offer-of-information computers 2, 3, and 4 and --, and they provide the information about the photography which each holds via the Internet 10 according to the demand to which it is given from the outside, for example.

[0020]The server computers 5 are the above-mentioned digital camera 1, the offer-of-information computers 2, 3, and 4, and an information processor with -- that intercedes, and are connected to the Internet 10 via I/O control unit 32 and communication line which are mentioned later. This server computer 5 collects the information about photography via the Internet 10 according to the demand

from the digital camera 1 from the offer-of-information computers 2, 3, and 4 and --, and has the function to provide the digital camera 1 with it via the Internet 10.

[0021](Composition of the digital camera 1) Outline drawing of the digital camera 1 is shown in drawing 2. As shown in drawing 2, the imaging unit 52 which consists of the electric power switch 51, an image sensor (for example, CCD element), and a lens is arranged on the transverse plane of the digital camera 1. The connecting switch 57 of the Internet and the display device 53 with a handwriting input device are installed in the back, and the wire communication contact button 54 and the portable memory contact button 55 are installed in the side. It has the pointing pen 56 for data input as attachment.

[0022]The above-mentioned display device 53 is what stuck the tablet which has a transparent electrode, and functions on the front face of a liquid crystal display also as a handwritten inputting device. If the pointing pen 56 is contacted into an applicable portion or a character etc. are drawn, looking at a character, a mark, etc. which are displayed on the display device 53, the coordinate point of the contacting parts will be detected. Processing which a character, a mark, etc. which are displayed have a role of a software keyboard, and corresponds according to the detected coordinate point is performed. A liquid crystal display can also be used as a finder of the photoed picture.

[0023]Drawing 3 is a block diagram showing the circuitry of the digital camera 1. In drawing 3, 71 is CODEC, and it performs processing which decrypts the coded picture information while coding the picture signal picturized with the imaging unit 52 and changing into picture information. The microprocessor (it is written as the following "CPU") which controls operation of the digital camera 1 72, the program memory (ROM) which stores the program which CPU72 executes 73, and 74 are work memories (RAM) which CPU72 uses for operating.

[0024]A global positioning system (GPS) for 75 to acquire a camera station etc., the portable memory interface whose 76 is a radio interface and a connection interface for [77] portable memories in a wire communication interface and 78, and 79 are internal buses. 80 is data memory, such as a hard disk, and memorizes the classification symbol of picture information and a digital camera user, users request information, etc. 82 is a clock which consists of a crystal oscillator and Integrated Circuit Sub-Division.

[0025]The wire communication contact button 54 shown in drawing 2 is a terminal for connecting the wire communication interface 77 of drawing 3 to a network cable communication path (ISDN). The portable memory contact button 55 shown in drawing 2 is a terminal for connecting the portable memory interface 78 of drawing 3 to the portable memory (optical-magnetic disc equipment or a hard disk drive besides a memory card may be used) which was adopted as external memory and which is not illustrated. External memory can also use a deferred type memory other than a portable memory. In that case, it is necessary to change the structure of a terminal.

[0026]The radio interface 76 can consist of installing a wireless-radios style in the digital camera 1, for example, using a portable telephone terminal. GPS75 receives the electric wave sent from two or more exclusive satellites, measures propagation time (this means the migration length of a terminal) from the time lag of the time when the electric wave concerned is sent, and the time which a self-terminal manages, and asks for the current position of a self-terminal. The clock 82 sends the data of current time (a date is also included) to the data memory 80 according to the command from CPU72.

[0027]The digital camera 1 is divided greatly and has two functions. One is a photographing function and another is a communication function of a picture. And user ID is set up for communication of a picture. Setting out of this user ID is performed immediately after powering on of the digital camera 1. In the case of communication of a picture, a user registration number is memorized by the data memory 80 with image data, users request information, etc.

[0028](The composition of the server computer 5), next the detailed composition of the server computer 5 are explained. Drawing 4 is a block diagram showing the example of composition of the server computer 5. In this drawing 4, 31 is a control means, comprises a CPU etc. and performs control of each part in the server computer 5, data transfer and various operations, temporary storing of data,

etc. 32 is an I/O control unit and manages the data inputted or outputted via the Internet 10.

[0029]Each of 33-38 is memory measures, and the following files are stored and they are memorized, respectively. That is, the information related to the picture which a digital camera user demands is memorized by the 1st memory measure 33 as a user's request file. In this embodiment, a user's request file comprises user ID or a user registration number, and user's request information. Information, including the season etc. of the information about the picture which a digital camera user demands, for example, a tourist resort name, and picture photography, is included in user's request information.

[0030]The provided information which answered the above-mentioned user's request information and has been sent to the 2nd memory measure 34 by a tourist resort association, a travel agent, photographer, etc. is memorized as a file. In this embodiment, this provided information file comprises registrant ID or a registrant number, and provided information. This provided information comprises information related to the picture with which a tourist resort association, a travel agent, a photographer, etc. can provide a digital camera user. This is information, including the photographing time of a tourist resort name and a picture, a photographing location, the degree of angle of coverage, etc., for example.

[0031]The user registration number about a digital camera user and the registrant number at the time of registering a tourist resort association, a travel agent, a photographer, etc. who provide a digital camera user with information or a picture are memorized by the 3rd memory measure 35. The fee collection at the time of a tourist resort association, a travel agent, a photographer, etc. being registered in this embodiment, payment of a price shall be made using the Internet 10 and a registrant number shall be registered by the payment using a credit card, a convenience store, SET (Secure Electric Transaction), a TEBITTO card, or a cellular phone.

[0032]The processed images which carried out subsampling processing and interlacing processing of picture information to the 4th memory measure 36, and were reduced to it from the tourist resort association, a travel agent, a photographer, etc. to the picture with which a digital camera user is provided, and the picture concerned provided are memorized as a file.

[0033]The map data file is memorized by the 5th memory measure 37. The map data file in this embodiment has a layered structure of three layers. The upper layer is a Japanese map, a middle layer is a map according to all prefectures, and a lower layer is a map of tourist resorts (for example, a city, towns and villages unit, a shopping-quarter unit, a national park unit, etc.). Each map of each class may be in bit map format.

[0034]The data file about the advertisement and the advertisement which are transmitted to the 6th memory measure 38 by a tourist resort association, a travel agent, photographer, etc. is memorized. This advertising and promotional file is created for every registrant number.

[0035]40 is the 7th memory measure and the control program for the control means 31 which comprises a CPU etc. is memorized. This control program comprises a program to which an initial screen format is displayed on the indicator of the digital camera 1, a program for transmitting and receiving a picture, a program for carrying out comparison search of user's request information and the provided information, a program for detecting position information, etc., for example.

[0036](The offer-of-information computers 2, 3, and 4, composition of --) The offer-of-information computers 2, 3, and 4 which a tourist resort association, a travel agent, a photographer, etc. own, and -- are terminals connectable with the Internet 10. These offer-of-information computers 2, 3, and 4 and -- have input parts, such as a keyboard and a mouse, with indicators, such as CRT and LCD, respectively.

[0037]It is explained to (explanation of operation), next a digital camera user's hope how the picture linked to map information is distributed to the digital camera 1 via the Internet 10. Here, by radio or a wire communication, the digital camera 1 communicates by being connected with the server computer 5 by the Internet 10, and functions as a digital camera user's terminal. By radio or a wire communication, the offer-of-information computers 2, 3, and 4 and -- also communicate by being

connected with the server computer 5 by the Internet 10, and function as a terminal of a tourist resort association, a travel agent, or a photographer.

[0038]Drawing 5 is the digital camera 1, the server computer 5 and the offer-of-information computers 2, 3, and 4, and a flow chart that shows the flow of processing of the whole system containing --, and shows the relative relation of the flow chart later mentioned using drawing 6, drawing 10, drawing 12, drawing 13, and drawing 15.

[0039]First, in step Sa1 shown in drawing 5, a digital camera user demands the picture which a digital camera user wants to see using the digital camera 1 which has a communication function through the Internet 10. The users request information sent from the digital camera 1 at this time is supplied to each offer-of-information computers 2, 3, and 4 and -- via the server computer 5.

[0040]Next, in step Sa2 a tourist resort association, a travel agent, a photographer, etc., Declaration of intention of owning the picture which meets a digital camera user's demand using the offer-of-information computers 2, 3, and 4 and -- which have a communication function is performed to the server computer 5 through the Internet 10. Based on this declaration of intention, the server computer 5 collects the information related to advertisement and promotion, such as a picture which a digital camera user demands and a tourist resort association, a travel agent or a photographer, from each offer-of-information computers 2, 3, and 4 and -- via the Internet 10 by step Sa3.

[0041]By step Sa4, the server computer 5, By sending the processed images generated from the pictures collected by the above-mentioned step Sa3 to the digital camera 1 via the Internet 10, It is checked whether the collected pictures concerned are suitable for the digital camera user itself (for example, check etc. of being a picture according to the season for which it wishes). And as step Sa5, the picture according to the season for which a digital camera user wishes checked by the above-mentioned step Sa4 is made to link with map information, and, finally the server computer 5 provides the digital camera 1 with it via the Internet 10. Below, detailed operation of the above-mentioned steps Sa1-Sa5 is explained one by one.

[0042](Image request) Drawing 6 is a flow chart which shows the detailed operation in the above-mentioned step Sa1, and shows the flow at the time of expressing the picture which a digital camera user wants to see through the Internet 10.

[0043]In drawing 6, if the electric power switch 51 of the digital camera 1 is switched on at Step 101, as first shown in Step 102, By GPS75 and the clock 82 by which internal organs were carried out to the digital camera 1, the current position and current time of the user who owns the digital camera 1 are calculated like previous statement, and are memorized by the data memory 80. The information on this current position and current time is updated one by one.

[0044]Then, when a digital camera user pushes the Internet connectivity switch 57 at Step 103, The current position of the digital camera 1 and the information on current time are sent to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77. The control means 31 in the server computer 5 makes a procedure followed to Step 104 in response.

[0045]In Step 104, the control means 31 reads the upper map data file from the 5th memory measure 37, and it is sent to the digital camera 1 via I/O control unit 32 and the Internet 10. And Japanese map 11 (refer to drawing 7) based on the map data file concerned is displayed on the display device 53 of the digital camera 1 via the radio interface 76 or the wire communication interface 77 in the digital camera 1. It progresses to Step 111 with this display, and will be in the input waiting state from a digital camera user.

[0046]In the state of this input waiting, on the display device 53 of the digital camera 1, As shown in drawing 7, with Japanese map 11. Limitation of a local place. The button 12 in which the message to urge is shown, the button 13 on which the user position of the digital camera 1 present now is displayed, the button 14 which directs the photography season of a photograph for which it wishes, the

correction button 15 which returns processing procedure before one, and the end button 16 with which processing procedure is made to finish are displayed. The season corresponding to the current time (a date is also included) when the seasonal button 14 was detected by the clock 82 is displayed as a default.

[0047]And if a digital camera user chooses the current position button 13 with the pointing pen 56, for example, It progresses to Step 112 and that is told to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77. And in response, the control means 31 in the server computer 5, The lower layer map data file corresponding to a digital camera user's current position detected by GPS75 is read from the 5th memory measure 37, and it is displayed on the display device 53 of the digital camera 1 via the Internet 10. Then, it returns to Step 104 again.

[0048]If a digital camera user chooses the seasonal button 14 with the pointing pen 56, for example, he can progress to Step 113 and can set up the arbitrary seasons for which a digital camera user wishes. When a digital camera user does not choose the seasonal button 14 with the pointing pen 56 at this time, the present season shall be initialized from the time stored in the data memory 80. Then, it returns to Step 104 again. If a digital camera user chooses the end button 16, it will progress to Step 114, Internet communication will be cut, and processing will be completed.

[0049]Suppose that he doubled the nib of the pointing pen 56 with the position of Nagano Prefecture on the Japanese map displayed like drawing 7, and contacted after the digital camera user chose the place setting button 12. Then, that is told to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77.

[0050]And in response, the control means 31 in the server computer 5, The map data file of Nagano Prefecture by which tab control specification was carried out among the medium-rise map data files memorized by the 5th memory measure 37 is read, and it is displayed on the display device 53 of the digital camera 1 via the Internet 10. At this time, CPU72 which is a control means in the digital camera 1, As shown in drawing 8, control on which the message 22 which urges the area to a still more restrictive tourist resort etc. that it limits with the map 21 of Nagano Prefecture based on the map data file concerned is displayed (for example, it is made to display so that it may be conspicuous in the place setting button 12) is performed.

[0051]Supposing a digital camera user inputs to the display screen shown in this drawing 8, doubling the nib of the pointing pen 56 near the Hiraoka village (tentative name) on a display map, That is told to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77. And in response, the control means 31 in the server computer 5, The map data file of the Hiraoka village by which tab control specification was carried out among the lower layer map data files memorized by the 5th memory measure 37 is read, and it is displayed on the display device 53 of the digital camera 1 via the Internet 10.

[0052]Thus, when the place setting button 12 is chosen in the input waiting state of Step 111 and a map display is directed, The control means 31 in the server computer 5 judges whether the indicating input is what shows read-out of a lower layer map data file, as shown in Step 105. And when it is not what shows a lower layer map, it progresses to Step 106 and the place where a digital camera user wants to take a photograph is made to limit with the pointing pen 56 further. On the other hand, when it is what shows a lower layer map, it controls to progress to Step 108.

[0053]The control means 31 in the server computer 5 gives the user of the digital camera 1 the check about the contents of the users request information inputted in the above-mentioned steps 111-113 at Step 108. The example of the screen displayed on the display device 53 at this time is shown in drawing 9. What is necessary is here, just to push the correction button 23, when a digital camera user cannot understand by the contents displayed on the display device 53 but corrects. In this case, it will return from Step 109 to Step 104, and map information will be again displayed on the display device 53.

[0054]What is necessary is on the other hand, just to push the consent button 24, when a digital camera user can understand by the contents displayed on the display device 53. In this case, the control means 31 in the server computer 5 is controlled to advance processing to Step 110 from Step 109. In Step 110, the control means 31 as a place which wants to take a photograph A tourist resort name, The server computer 5 obtains the present place etc. of the season which wants to take a photograph, and a digital camera user via the Internet 10, and it controls to recognize the information which came to hand as users request information.

[0055]The processing which expresses above the picture which the user of the digital camera 1 wants to see through the Internet 10 is ended.

[0056](Picture possession manifestation) As opposed to the users request information which drawing 10 is a flow chart which shows the detailed operation in step Sa2 of drawing 5, and was published as mentioned above, The flow which collects the intention information that it has a picture for which a digital camera user wishes, from the offer-of-information computers 2, 3, and 4 and -- is shown.

[0057]First, the control means 31 in the server computer 5 receives the users request information from the digital camera 1, and controls it by Step 201 to change the contents of the 1st memory measure 33 according to the users request information at Step 202. The control means 31 is controlled in Step 203 to turn to each offer-of-information computers 2, 3, and 4 and -- the users request information accumulated in the 1st memory measure 33 of the above, and to carry out broadcloth distribution through the Internet 10. In the case of this distribution, the control means 31 reads the registrant number accumulated in the 3rd memory measure 35, and controls it to the registrants (a tourist resort association, a travel agent, a photographer, etc.) corresponding to that registrant number to perform the above-mentioned broadcloth distribution.

[0058]Next, the offer-of-information computers 2, 3, and 4 which a tourist resort association, a travel agent, a photographer, etc. who received broadcloth distribution of users request information own, and -- receive this users request information at Step 204. And in Step 205, the offer-of-information computers 2, 3, and 4 and -- display the contents of users request information on indicators which self has for the purpose of telling having received users request information to a tourist resort association, a travel agent, a photographer, etc. who are the owner, such as CRT and LCD.

[0059]At this time, the example of the offer-of-information computers 2, 3, and 4 and the screen of -- displayed on an indicator is shown in drawing 11. As shown in drawing 11, on the offer-of-information computers 2, 3, and 4 and the display screen of --, users request information is displayed like the numerals 81. Under the present circumstances, the information urged to a tourist resort association, a travel agent or a photographer, etc. that the information which can be provided is inputted to users request information is also displayed like the numerals 82.

[0060]Next, in Step 206, the offer-of-information computers 2, 3, and 4 and -- search whether the picture which can be responded suitably for users request information is accumulated in a certain memory measure. the search in this case may be the offer-of-information computers 2, 3, and 4 and a means to search on the file by which -- is accumulated in the self memory measure -- carrying out and linking with other computers -- being concerned -- others -- it may be a means to search on the file accumulated in the storage means. It may be a means by which a tourist resort association, a travel agent, a photographer, etc. search on the file accumulated by its handicraft etc.

[0061]And the graphics file which can be responded suitably for users request information at Step 207 based on the above search results is owned, or how is judged. Here, when such a graphics file is owned, the offer-of-information computers 2, 3, and 4 and -- are Step 208, turn that there is an applicable picture to the server computer 5, and transmit through the Internet 10. On the occasion of this transmission, the offer-of-information computers 2, 3, and 4 and -- shall recognize information, including the tourist resort name about the picture, photographing time, a photographing location, the degree of angle of coverage, etc., and a registrant number as provided information, and shall transmit

towards the server computer 5.

[0062]Next, in Step 209, the control means 31 in the server computer 5 is controlled to receive the provided information based on the above contents via the Internet 10. And the control means 31 is Step 210 and is controlled to change the contents of the 2nd memory measure 34 according to the received provided information. The processing whose tourist resort association, travel agent, photographer, etc. express possessing the picture of user hope by reception of the provided information by this server computer 5 and Make Changes of the 2nd memory measure 34 is completed.

[0063](Graphics file collection) Drawing 12 is a flow chart which shows the detailed operation in step Sa3 of drawing 5, and shows the flow about how a picture for which a digital camera user wishes is accumulated in the server computer 5.

[0064]In drawing 12, at Step 301, the control means 31 in the server computer 5, While reading users request information from the 1st memory measure 33 based on the control program memorized by the 7th memory measure 40, Each offer-of-information computers 2, 3, and 4 and the provided information supplied from -- are read from the 2nd memory measure 34 one by one, the users request information concerned and each provided information are used as a database, and a comparative examination is carried out. And as a result of this comparative examination the control means 31, A photograph was taken within a 10-km radius of the photographing location which one or two suitable conditions or more of users request information, for example, a digital camera user, require, Or while searching and choosing provided information by which conditions, such as restricting to the season specified by a digital camera user, are fulfilled, it controls to change the contents of the 2nd memory measure 34 based on this selected result.

[0065]Next, in Step 302, the control means 31 generates having been chosen as selection information for every registrant number registered as an offer-of-information computer which is the dispatch origin of the selected provided information. In Step 303, the control means 31, When the offer-of-information computer which is the dispatch origin of the selected provided information turns to the server computer 5 the information about the advertisement and promotion mentioned later and transmits through the Internet 10, it controls to generate the advertisement permit information which is what is called a password used as the requirements for the permission judgment. And the control means 31 transmits through the Internet 10 towards an offer-of-information computer applicable after reading the registrant number based on a selected result for the selection information and advertisement permit information which generated [above-mentioned] from the 3rd memory measure 35 at Step 304.

[0066]The offer-of-information computer which is the dispatch origin of the selected provided information receives the selection information and advertisement permit information which are sent from the server computer 5 in Step 305. Then, an offer-of-information computer is expressed as Step 306 on a display, in order to notify of having received selection information in a tourist resort association, a travel agent, or a photographer etc. who is the owner. That is, the thing for which conditions with a suitable picture which the offer-of-information computer concerned possesses to a picture for which a digital camera user wishes were fulfilled, For example, it indicates that it fulfilled conditions, such as restricting to having taken a photograph within a 10-km radius of the photographing location which a digital camera user demands, or the season specified by a digital camera user, on the display of the offer-of-information computer which a tourist resort association etc. possess.

[0067]Next, if it is the advertisement and promotion concerning self business, for example, a tourist resort association, an offer-of-information computer will read the stay situation of the lodgings of this tourist resort, a reference, or means of transportation guidance from creation or a file at it, while searching the picture information corresponding to provided information with Step 307. This may be a case where a tourist resort association, a travel agent, or a photographer does search creation manually. This will progress to the following step 308.

[0068]In Step 308, an offer-of-information computer transmits the picture information and

advertisement information corresponding to provided information to the server computer 5 through the Internet 10 based on the advertisement permit information previously obtained from the server computer 5. Under the present circumstances, an offer-of-information computer is controlled to embed the data in which a registrant number and a photographing location are shown by digital watermarking at picture information.

[0069](Picture transmission) Drawing 13 is a flow chart which shows the detailed operation in step Sa4 of drawing 5, and shows how it is checked whether the picture transmitted to the digital camera 1 from now on is a picture according to the season when a digital camera user desires photography. By stepping on this process, even if a digital camera user has a picture which is contrary to a digital camera user's intention temporarily in the collected picture information, he needs to choose the picture concerned.

[0070]Since a tourist resort association, a travel agent, or a photographer etc. who provides a picture can perform advertisement only when the self picture to provide agrees in the picture which a digital camera user desires, improvement in the quality of the picture collected will be achieved. Because, in order for a tourist resort association, a travel agent, or a photographer etc. who provides a picture to perform self advertisement and promotion, it is needed for a digital camera user's hope that it is a

***** picture. As a result, a tourist resort association, a travel agent, or a photographer is because it is humanity that it is going to strive for upgrading of a picture independently so that it may be realized.

[0071]In drawing 13, first, in Step 402, the control means 31 in the server computer 5 is controlled so that I/O control unit 32 receives the picture information and advertisement information of the offer-of-information computers 2, 3, and 4 and -- which are sent from any they are. Next, the control means 31 is Step 403 and is controlled to change the advertising and promotional file accumulated in the 6th memory measure 38 based on the received advertisement information. The control means 31 is controlled to change the graphics file accumulated in the 4th memory measure 36 based on the picture information which received.

[0072]Furthermore, the control means 31 is Step 404 and is controlled by processing the picture information which received, for example, compressing information by infanticide of subsampling or image data to perform processing which reduces a picture. And the control means 31 is controlled to turn the generated processed-images information to the digital camera 1 in Step 405, and to transmit through I/O control unit 32 and the Internet 10.

[0073]The digital camera 1 is Step 406 and receives the processed-images information transmitted from the server computer 5 via the radio interface 76 or the wire communication interface 77. And based on data processing of CPU72, the picture using the received processed-images information is expressed as Step 407 on the display device 53 of the digital camera 1. The example of a screen display of the display device 53 of the digital camera 1 at this time is shown in drawing 14.

[0074]In drawing 14, two or more pictures 44 depended on processed-images information are displayed. When two or more processed images which cannot be displayed at once on the display device 53 are included, it is made to display based on the program in the program memory 73 that the scroll buttons 41a and 41b are allotted on the display device 53. And a screen is scrolled so that the next image display may be performed, when a digital camera user contacts the nib of the pointing pen 56 to the scroll button 41b, and a screen is scrolled so that pre- image display may be performed, when the scroll button 41a is made to contact similarly.

[0075]As shown in drawing 14, the display 42 urged that it is checked whether it is a picture for which the user itself wishes to a digital camera user with the display of the processed images 44 on the display device 53 is also performed (Step 408 of drawing 13). Here, suppose that the nib of the pointing pen 56 was doubled with the picture of the numerals 43 concerned in order to, choose the picture which a digital camera user shows with the numerals 43 for example (Step 409 of drawing 13). In this case, it is saved by predetermined coding by the information on the purport that the picture concerned was chosen at the data memory 80, and in the following step 410. Based on the data stored in the data

memory 80 concerned, data processing is performed by CPU72, picture claim information is generated, and it is transmitted to the server computer 5 through the Internet 10.

[0076]Next, in Step 411, the control means 31 in the server computer 5 is controlled so that I/O control unit 32 receives picture claim information. The control means 31 searches the graphics file corresponding to the picture claim information concerned with Step 412 out of the 4th memory measure 36 based on the received picture claim information. While searching the advertising and promotional file accumulated in the 6th memory measure 38 based on the registrant number linked to the searched picture information as digital watermarking, It controls to search the map data file corresponding to the data in which the photographing location similarly linked as digital watermarking is shown (x, y) out of the 5th memory measure 37. And it controls to turn these picture information, advertisement information, and map information to the digital camera 1, and to transmit through the Internet 10.

[0077]After this checks whether the picture transmitted from now on is a picture according to the season when a digital camera user desires photography, only a desired picture is receivable with the digital camera 1.

[0078](Map information and linked image distribution) Drawing 15 is a flow chart which shows the detailed operation in step Sa5 of drawing 5, and shows how a digital camera user receives distribution of the picture information to which map information was linked.

[0079]First, in Step 501, the digital camera 1 receives picture information, advertisement information, and map information with the radio interface 76 or the wire communication interface 77. And in Step 502, the digital camera 1 displays the photograph by picture information on the display device 53 based on the program memorized by the program memory 73. The example of a screen of the display device 53 of the digital camera 1 at this time is shown in drawing 16.

[0080]In drawing 16, the picture which the digital camera user chose is displayed in the big state, without carrying out subsampling processing so that a digital camera user may be legible (numerals 61). CPU72 is controlled so that the predetermined data (a photographing location, a season, etc.) about picture information like the numerals 62-64 is displayed on the display device 53. They are a button for 65 to display the map of a photographing location, and a button for 66 to perform control which returns to the screen of drawing 14.

[0081]Here, suppose that it was thought that a digital camera user wanted to know concretely the place which can take a photograph like the picture 61. In this case, in Step 503 of drawing 15, if a digital camera user doubles the nib of the pointing pen 56 with the button 65, According to the program memorized by the program memory 73, the advertisement information and map information which were temporarily accumulated in the data memory 80 are displayed on the display device 53 (Step 504,505). The example of the display screen of the display device 53 at this time is shown in drawing 17.

[0082]As shown in drawing 17, while the place which photoed the photograph 91 is displayed like the numerals 91, the advertisement information of a tourist resort association, a travel agent, a photographer, etc. is displayed like the numerals 92. Thus, the photograph according to a season for which a digital camera user asks is linked to map information, and a digital camera user is provided with it. A high definition picture can also be immediately printed out by transmitting image data to the printer which is not illustrated via the radio interface 76 or the wire communication interface 77 via the portable memory interface 78.

[0083]As explained above, according to this embodiment, the user of the digital camera 1 becomes possible [that a photograph which wishes to take a photograph comes to hand certainly by easy work]. Since the photograph concerned which came to hand is linked with map information, the user of the digital camera 1 becomes possible [recognizing a place suitable for taking the photograph to wish exactly using map information]. Although an above-mentioned embodiment does not explain, if information [/ photographing techniques, such as the degree of angle of coverage or other than map

information] is linked to picture information, and is provided, and a photograph is taken how, he can understand easily whether a beautiful photograph can be taken like a picture postcard.

[0084]A tourist resort association, a travel agent, or a photographer can realize carrying out restrictive advertisement and promotion to the picture which self owns to the user who shows interest while becoming possible [providing broadly the picture which self owns through the Internet 10]. Since it has a function in which the digital camera 1 of this embodiment can equip with the portable memory using magnetism, optical magnetism, or IC if it furthermore says, if it uses together with a print means, there is also a merit that a picture can be printed out at favorite time and place.

[0085]Although the digital camera 1 was used in the above-mentioned embodiment as an information-and-telecommunications terminal which the user who takes a photograph uses, it is also possible to use communication equipment other than digital camera 1 as an information-and-telecommunications terminal for carrying out this invention. For example, they may be the apparatus which it has a data communication facility, and can transmit and receive data using a telephone line or radio and which transposed the system notebook to the small computer (a Personal Digital Assistant, PDA, etc.). It is possible a cellular phone with a digital camera and to carry out this invention, even if it is the combination of a still camera and these information-and-telecommunications terminal, etc. further.

[0086]When there is a demand of a desired photograph from the digital camera 1 to the server computer 5 in the above-mentioned embodiment, Although the server computer 5 searches each offer-of-information computers 2, 3, and 4 and the picture information which accesses -- and fulfills conditions in real time and he is trying to provide it, this invention is not limited to such a gestalt. For example, each offer-of-information computers 2, 3, and 4, and the photograph and advertisement and promotion which -- provides are beforehand registered into the server computer 5, When there is a demand of a desired photograph from the digital camera 1 to the server computer 5, the server computer 5 searches the picture information which fulfills conditions, and it may be made to provide out of each photograph registered a priori. This registration may be performed by memorizing the information with which real time is provided by searching one by one.

[0087]The digital camera user itself evaluates the photograph with which the digital camera user was provided, and it may be made to feed back the result to the server computer 5 or each offer-of-information computers 2, 3, and 4, and --. If it does in this way, in order to obtain the outstanding evaluation, a tourist resort association, a travel agent, or a photographer etc. who provides a picture, Since it is going to strive for upgrading of the further picture to provide a digital camera user's hope with a ***** picture, further improvement in the quality of the picture with which a digital camera user is provided can be aimed at.

[0088](Other embodiments of this invention) So that various kinds of devices may be operated in order to realize the function of an embodiment mentioned above, As opposed to the computer in the device or system connected with these various devices, The program code of the software for realizing the function of the above-mentioned embodiment is supplied, and what was carried out by operating the various above-mentioned devices according to the program stored in the computer (CPU or MPU) of the system or a device is contained under the category of this invention.

[0089]The function of an embodiment which the program code of the above-mentioned software itself mentioned above in this case will be realized, The recording medium which stored the means for supplying the program code itself and its program code to a computer, for example, this program code, constitutes this invention. As a recording medium which memorizes this program code, a floppy disk, a hard disk, an optical disc, a magneto-optical disc, CD-ROM, magnetic tape, a nonvolatile memory card, ROM, etc. can be used, for example.

[0090]By executing the program code with which the computer was supplied, The function of an above-mentioned embodiment is not only realized, but, Also when the function of an above-mentioned embodiment is realized in collaboration with OS (operating system) or other application software etc.

with which the program code is working in a computer, it cannot be overemphasized that this program code is contained in the embodiment of this invention.

[0091]After the supplied program code was stored in the memory with which the function expansion unit connected to the expansion board of a computer or the computer is equipped, Also when the function of an embodiment which CPU etc. with which the expansion board and function expansion unit are equipped based on directions of the program code performed a part or all of actual processing, and mentioned above by the processing is realized, it cannot be overemphasized that it is contained in this invention.

DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Field of the Invention]This invention is used for the system for which picture information is especially exchanged via networks, such as the Internet, about an information processor, a network system, a picture information provision method, and a recording medium, and is preferred.

[0002]

[Description of the Prior Art]When it goes to a tourist resort etc. conventionally, in order to know the photography spot of the picture postcard, etc. to take a beautiful photograph like a picture postcard, a travel map, a magazine, etc. which actually buy a picture postcard or in which the photograph is published needed to be purchased and investigated. Even when a picture postcard etc. were purchased and the name of a place of a photography spot was found, it needed to search finely, having opened the atlas and comparing with a picture postcard the place where the photograph was taken.

[0003]

[Problem(s) to be Solved by the Invention]However, in order for the information for which those who take a photograph wish to come to hand suitably, in the method which has investigated the picture postcard and the atlas enough in detail, and carries out them as mentioned above, a photography person's work becomes very complicated, and it is intolerable. On the other hand, although there is also a method whose photographing location is in a tourist resort association etc. in between by telephone, it is difficult to tell clearly to a fine place in the inquiry by a telephone. the situation where the tourist resort association who received the inquiry does not have suitable information with him -- about -- a number thinks. In such a case, only the photography which balances at time the labor which the photography person invested produces the inconvenience of becoming impossible in many cases.

[0004]When it was going to take a photograph, and taking a photograph how, there were [even if the detailed photographing location was found,] many things which are not understood whether it can take a beautiful photograph like a picture postcard. Therefore, even if it went to the place where the picture postcard was photoed with much trouble, there was a problem that the beautiful photograph which a photography person wishes could not be taken.

[0005]It accomplishes in order to solve such a problem, and those who take a photograph make the information about capital photography available simply and certainly, and an object of this invention is to enable it to perform photography for which a photography person asks. An object of this invention is also for a tourist resort association, a travel agent or a photographer, etc. to limit to those who are interested in the tourist resort, and to enable it to perform advertisement [in detail] efficiently.

[0006]

[Means for Solving the Problem]This invention is characterized by an information processor comprising the following.

A request input means to input users request information about picture information which receives offer.

An image collecting means which collects picture information which satisfies conditions of the above-mentioned users request information that it was inputted by the above-mentioned request input means from the offer side of the picture information concerned.

A picture providing means which provides a side which receives offer of described image information with picture information collected by a described image collecting means.

[0007]In a mode of others of this invention, picture information collected by a described image collecting means is processed, processed-images information for a check is generated, and it has further a verifying means which checks to a near user who receives offer of described image information using the processed-images information concerned.

[0008]In a mode of others of this invention, the above-mentioned users request information includes information about a place of a picture which a user demands. In this case, a described image providing means relates with map information corresponding to a place of a described image picture information collected by a described image collecting means, and it may be made to provide it.

[0009]In a mode of others of this invention, the above-mentioned users request information includes information about a season of a picture which a user demands. In this case, a described image providing means relates with season information picture information collected by a described image collecting means, and it may be made to provide it.

[0010]In a mode of others of this invention, a described image providing means is related with advertisement information sent from the offer side of described image information, and provides picture information collected by a described image collecting means.

[0011]This invention a network system of this invention, A network system which has on a network the 1st terminal that receives offer of picture information, the 2nd terminal that performs offer of picture information, and the 3rd terminal that performs agency between the 1st terminal of the above and a terminal of the above 2nd is characterized by comprising:

A demand issuing means which publishes users request information about picture information which receives offer from the 1st terminal of the above to the 3rd terminal of the above.

An image collecting means which collects picture information which is satisfied with the 3rd terminal of the above of conditions of the above-mentioned users request information in response to the above-mentioned users request information published by the above-mentioned demand issuing means from the 2nd terminal of the above.

A picture providing means which provides the 1st terminal of the above with picture information which the 3rd terminal of the above collected from the 2nd terminal of the above.

[0012]A picture information provision method of this invention inputs users request information about picture information which receives offer from a side which receives offer of described image information, Picture information which satisfies conditions of the above-mentioned users request information inputted [above-mentioned] is collected from the offer side of the picture information concerned, and a side which receives offer of described image information was provided with picture information which collected [above-mentioned].

[0013]A program for a recording medium in which this invention computer reading is possible to operate a computer as any 1 paragraph of Claims 1-23 as each means of a description, Or a program for making a computer perform procedure of a picture information provision method of a description was recorded on any 1 paragraph of Claims 24-29.

[0014]According to this invention constituted as mentioned above, self transmits users request information about picture information which asks for photography via a network, and a user who

receives offer of picture information receives offer of picture information sent as the response. On the other hand, a donor of picture information provides picture information which an information provider owns while providing self provided information about users request information via a network. Therefore, if it is made a user, picture information for which it asks only by easy operation can be obtained certainly.

[0015]Since he is trying to pass through a stage where the user itself checks whether it is a picture which uses and asks for processed-images information according to the feature of others of this invention when receiving offer of picture information, a user becomes possible [obtaining intuitive more effective picture information].

[0016]If the user can get picture information which receives offer by the ability to relate it with map information, season information, or advertisement information according to the feature of others of this invention and it is made a user, it will become possible for picture information and accompanying information relevant to it to come to hand promptly and exactly. Since picture information is related with a season, the user can choose and get picture information of a season for which it asks under self judgment. And since offer of these information is performed without a time lag, both sides of a user and an information provider have a merit which was not obtained in picture information offer or collection to the former.

[0017]

[Embodiment of the Invention]Hereafter, one embodiment of this invention is described based on Drawings. In the embodiment described below, those who take a photograph use a digital camera as a photographing device, and let the digital camera concerned be what has possible accessing the Internet through a communication line so that it may function as an information-and-telecommunications terminal. Therefore, in explanation of this embodiment, those who take a photograph will be called digital camera user, and the information processor which the digital camera user concerned uses will be called digital camera.

[0018](Entire configuration) The composition of the whole network system of this embodiment is first explained with reference to Drawings. Drawing 1 is a block diagram showing the composition of the network system by this embodiment. In this drawing 1, via the communication function, the digital camera 1 is constituted so that connection with networks, such as the Internet 10, is possible. A digital camera user can be come to hand via the Internet 10 by the information about taking [which a digital camera user wishes] as well as taking a photograph using this digital camera 1.

[0019]The offer-of-information computers 2, 3, and 4 and -- are various kinds of information processing terminals, and are connected to the Internet 10 via a communication function. A tourist resort association, a travel agent, a photographer, etc. use these offer-of-information computers 2, 3, and 4 and --, and they provide the information about the photography which each holds via the Internet 10 according to the demand to which it is given from the outside, for example.

[0020]The server computers 5 are the above-mentioned digital camera 1, the offer-of-information computers 2, 3, and 4, and an information processor with -- that intercedes, and are connected to the Internet 10 via I/O control unit 32 and communication line which are mentioned later. This server computer 5 collects the information about photography via the Internet 10 according to the demand from the digital camera 1 from the offer-of-information computers 2, 3, and 4 and --, and has the function to provide the digital camera 1 with it via the Internet 10.

[0021](Composition of the digital camera 1) Outline drawing of the digital camera 1 is shown in drawing 2. As shown in drawing 2, the imaging unit 52 which consists of the electric power switch 51, an image sensor (for example, CCD element), and a lens is arranged on the transverse plane of the digital camera 1. The connecting switch 57 of the Internet and the display device 53 with a handwriting input device are installed in the back, and the wire communication contact button 54 and the portable memory contact button 55 are installed in the side. It has the pointing pen 56 for data input as attachment.

[0022]The above-mentioned display device 53 is what stuck the tablet which has a transparent electrode, and functions on the front face of a liquid crystal display also as a handwritten inputting device. If the pointing pen 56 is contacted into an applicable portion or a character etc. are drawn, looking at a character, a mark, etc. which are displayed on the display device 53, the coordinate point of the contacting parts will be detected. Processing which a character, a mark, etc. which are displayed have a role of a software keyboard, and corresponds according to the detected coordinate point is performed. A liquid crystal display can also be used as a finder of the photoed picture.

[0023]Drawing 3 is a block diagram showing the circuitry of the digital camera 1. In drawing 3, 71 is CODEC, and it performs processing which decrypts the coded picture information while coding the picture signal picturized with the imaging unit 52 and changing into picture information. The microprocessor (it is written as the following "CPU") which controls operation of the digital camera 1 72, the program memory (ROM) which stores the program which CPU72 executes 73, and 74 are work memories (RAM) which CPU72 uses for operating.

[0024]A global positioning system (GPS) for 75 to acquire a camera station etc., the portable memory interface whose 76 is a radio interface and a connection interface for [77] portable memories in a wire communication interface and 78, and 79 are internal buses. 80 is data memory, such as a hard disk, and memorizes the classification symbol of picture information and a digital camera user, users request information, etc. 82 is a clock which consists of a crystal oscillator and Integrated Circuit Sub-Division.

[0025]The wire communication contact button 54 shown in drawing 2 is a terminal for connecting the wire communication interface 77 of drawing 3 to a network cable communication path (ISDN). The portable memory contact button 55 shown in drawing 2 is a terminal for connecting the portable memory interface 78 of drawing 3 to the portable memory (optical-magnetic disc equipment or a hard disk drive besides a memory card may be used) which was adopted as external memory and which is not illustrated. External memory can also use a deferred type memory other than a portable memory. In that case, it is necessary to change the structure of a terminal.

[0026]The radio interface 76 can consist of installing a wireless-radios style in the digital camera 1, for example, using a portable telephone terminal. GPS75 receives the electric wave sent from two or more exclusive satellites, measures propagation time (this means the migration length of a terminal) from the time lag of the time when the electric wave concerned is sent, and the time which a self-terminal manages, and asks for the current position of a self-terminal. The clock 82 sends the data of current time (a date is also included) to the data memory 80 according to the command from CPU72.

[0027]The digital camera 1 is divided greatly and has two functions. One is a photographing function and another is a communication function of a picture. And user ID is set up for communication of a picture. Setting out of this user ID is performed immediately after powering on of the digital camera 1. In the case of communication of a picture, a user registration number is memorized by the data memory 80 with image data, users request information, etc.

[0028](The composition of the server computer 5), next the detailed composition of the server computer 5 are explained. Drawing 4 is a block diagram showing the example of composition of the server computer 5. In this drawing 4, 31 is a control means, comprises a CPU etc. and performs control of each part in the server computer 5, data transfer and various operations, temporary storing of data, etc. 32 is an I/O control unit and manages the data inputted or outputted via the Internet 10.

[0029]Each of 33-38 is memory measures, and the following files are stored and they is memorized, respectively. That is, the information related to the picture which a digital camera user demands is memorized by the 1st memory measure 33 as a users request file. In this embodiment, a users request file comprises user ID or a user registration number, and users request information. Information, including the season etc. of the information about the picture which a digital camera user demands, for example, a tourist resort name, and picture photography, is included in users request information.

[0030]The provided information which answered the above-mentioned users request information and

has been sent to the 2nd memory measure 34 by a tourist resort association, a travel agent, photographer, etc. is memorized as a file. In this embodiment, this provided information file comprises registrant ID or a registrant number, and provided information. This provided information comprises information related to the picture with which a tourist resort association, a travel agent, a photographer, etc. can provide a digital camera user. This is information, including the photographing time of a tourist resort name and a picture, a photographing location, the degree of angle of coverage, etc., for example.

[0031]The user registration number about a digital camera user and the registrant number at the time of registering a tourist resort association, a travel agent, a photographer, etc. who provide a digital camera user with information or a picture are memorized by the 3rd memory measure 35. The fee collection at the time of a tourist resort association, a travel agent, a photographer, etc. being registered in this embodiment, Payment of a price shall be made using the Internet 10 and a registrant number shall be registered by the payment using a credit card, a convenience store, SET (Secure Electric Transaction), a TEBITTO card, or a cellular phone.

[0032]The processed images which carried out subsampling processing and infanticide processing of picture information to the 4th memory measure 36, and were reduced to it from the tourist resort association, a travel agent, a photographer, etc. to the picture with which a digital camera user is provided, and the picture concerned provided are memorized as a file.

[0033]The map data file is memorized by the 5th memory measure 37. The map data file in this embodiment has a layered structure of three layers. The upper layer is a Japanese map, a middle lamella is a map according to all prefectures, and a lower layer is a map of tourist resorts (for example, a cities, towns and villages unit, a shopping-quarter unit, a national park unit, etc.). Each map of each class may be bit map format.

[0034]The data file about the advertisement and the advertisement which are transmitted to the 6th memory measure 38 by a tourist resort association, a travel agent, photographer, etc. is memorized. This advertising and promotional file is created for every registrant number.

[0035]40 is the 7th memory measure and the control program for the control means 31 which comprises a CPU etc. is memorized. This control program comprises a program to which an initial screen format is displayed on the indicator of the digital camera 1, a program for transmitting and receiving a picture, a program for carrying out comparison search of users request information and the provided information, a program for detecting position information, etc., for example.

[0036](The offer-of-information computers 2, 3, and 4, composition of --) The offer-of-information computers 2, 3, and 4 which a tourist resort association, a travel agent, a photographer, etc. own, and -- are terminals connectable with the Internet 10. These offer-of-information computers 2, 3, and 4 and -- have input parts, such as a keyboard and a mouse, with indicators, such as CRT and LCD, respectively.

[0037]It is explained to (explanation of operation), next a digital camera user's hope how the picture linked to map information is distributed to the digital camera 1 via the Internet 10. Here, by radio or a wire communication, the digital camera 1 communicates by being connected with the server computer 5 by the Internet 10, and functions as a digital camera user's terminal. By radio or a wire communication, the offer-of-information computers 2, 3, and 4 and -- also communicate by being connected with the server computer 5 by the Internet 10, and function as a terminal of a tourist resort association, a travel agent, or a photographer.

[0038]Drawing 5 is the digital camera 1, the server computer 5 and the offer-of-information computers 2, 3, and 4, and a flow chart that shows the flow of processing of the whole system containing --, and shows the relative relation of the flow chart later mentioned using drawing 6, drawing 10, drawing 12, drawing 13, and drawing 15.

[0039]First, in step Sa1 shown in drawing 5, a digital camera user demands the picture which a digital camera user wants to see using the digital camera 1 which has a communication function through the

Internet 10. The users request information sent from the digital camera 1 at this time is supplied to each offer-of-information computers 2, 3, and 4 and -- via the server computer 5.

[0040]Next, in step Sa2 a tourist resort association, a travel agent, a photographer, etc., Declaration of intention of owning the picture which meets a digital camera user's demand using the offer-of-information computers 2, 3, and 4 and -- which have a communication function is performed to the server computer 5 through the Internet 10. Based on this declaration of intention, the server computer 5 collects the information related to advertisement and promotion, such as a picture which a digital camera user demands and a tourist resort association, a travel agent or a photographer, from each offer-of-information computers 2, 3, and 4 and -- via the Internet 10 by step Sa3.

[0041]By step Sa4, the server computer 5, By sending the processed images generated from the pictures collected by the above-mentioned step Sa3 to the digital camera 1 via the Internet 10, It is checked whether the collected pictures concerned are suitable for the digital camera user itself (for example, check etc. of being a picture according to the season for which it wishes). And as step Sa5, the picture according to the season for which a digital camera user wishes checked by the above-mentioned step Sa4 is made to link with map information, and, finally the server computer 5 provides the digital camera 1 with it via the Internet 10. Below, detailed operation of the above-mentioned steps Sa1-Sa5 is explained one by one.

[0042](Image request) Drawing 6 is a flow chart which shows the detailed operation in the above-mentioned step Sa1, and shows the flow at the time of expressing the picture which a digital camera user wants to see through the Internet 10.

[0043]In drawing 6, if the electric power switch 51 of the digital camera 1 is switched on at Step 101, as first shown in Step 102, By GPS75 and the clock 82 by which internal organs were carried out to the digital camera 1, the current position and current time of the user who owns the digital camera 1 are calculated like previous statement, and are memorized by the data memory 80. The information on this current position and current time is updated one by one.

[0044]Then, when a digital camera user pushes the Internet connectivity switch 57 at Step 103, The current position of the digital camera 1 and the information on current time are sent to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77. The control means 31 in the server computer 5 makes a procedure followed to Step 104 in response.

[0045]In Step 104, the control means 31 reads the upper map data file from the 5th memory measure 37, and it is sent to the digital camera 1 via I/O control unit 32 and the Internet 10. And Japanese map 11 (refer to drawing 7) based on the map data file concerned is displayed on the display device 53 of the digital camera 1 via the radio interface 76 or the wire communication interface 77 in the digital camera 1. It progresses to Step 111 with this display, and will be in the input waiting state from a digital camera user.

[0046]In the state of this input waiting, on the display device 53 of the digital camera 1, As shown in drawing 7, with Japanese map 11. Limitation of a local place. The button 12 in which the message to urge is shown, the button 13 on which the user position of the digital camera 1 present now is displayed, the button 14 which directs the photography season of a photograph for which it wishes, the correction button 15 which returns processing procedure before one, and the end button 16 with which processing procedure is made to finish are displayed. The season corresponding to the current time (a date is also included) when the seasonal button 14 was detected by the clock 82 is displayed as a default.

[0047]And if a digital camera user chooses the current position button 13 with the pointing pen 56, for example, It progresses to Step 112 and that is told to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77. And in response, the control means 31 in the server computer 5, The lower layer map data file corresponding to a digital

camera user's current position detected by GPS75 is read from the 5th memory measure 37, and it is displayed on the display device 53 of the digital camera 1 via the Internet 10. Then, it returns to Step 104 again.

[0048]If a digital camera user chooses the seasonal button 14 with the pointing pen 56, for example, he can progress to Step 113 and can set up the arbitrary seasons for which a digital camera user wishes. When a digital camera user does not choose the seasonal button 14 with the pointing pen 56 at this time, the present season shall be initialized from the time stored in the data memory 80. Then, it returns to Step 104 again. If a digital camera user chooses the end button 16, it will progress to Step 114, Internet communication will be cut, and processing will be completed.

[0049]Suppose that he doubled the nib of the pointing pen 56 with the position of Nagano Prefecture on the Japanese map displayed like drawing 7, and contacted after the digital camera user chose the place setting button 12. Then, that is told to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77.

[0050]And in response, the control means 31 in the server computer 5, The map data file of Nagano Prefecture by which tab control specification was carried out among the medium-rise map data files memorized by the 5th memory measure 37 is read, and it is displayed on the display device 53 of the digital camera 1 via the Internet 10. At this time, CPU72 which is a control means in the digital camera 1, As shown in drawing 8, control on which the message 22 which urges the area to a still more restrictive tourist resort etc. that it limits with the map 21 of Nagano Prefecture based on the map data file concerned is displayed (for example, it is made to display so that it may be conspicuous in the place setting button 12) is performed.

[0051]Supposing a digital camera user inputs to the display screen shown in this drawing 8, doubling the nib of the pointing pen 56 near the Hiraoka village (tentative name) on a display map, That is told to I/O control unit 32 of the server computer 5 via the Internet 10 from the radio interface 76 or the wire communication interface 77. And in response, the control means 31 in the server computer 5, The map data file of the Hiraoka village by which tab control specification was carried out among the lower layer map data files memorized by the 5th memory measure 37 is read, and it is displayed on the display device 53 of the digital camera 1 via the Internet 10.

[0052]Thus, when the place setting button 12 is chosen in the input waiting state of Step 111 and a map display is directed, The control means 31 in the server computer 5 judges whether the indicating input is what shows read-out of a lower layer map data file, as shown in Step 105. And when it is not what shows a lower layer map, it progresses to Step 106 and the place where a digital camera user wants to take a photograph is made to limit with the pointing pen 56 further. On the other hand, when it is what shows a lower layer map, it controls to progress to Step 108.

[0053]The control means 31 in the server computer 5 gives the user of the digital camera 1 the check about the contents of the users request information inputted in the above-mentioned steps 111-113 at Step 108. The example of the screen displayed on the display device 53 at this time is shown in drawing 9. What is necessary is here, just to push the correction button 23, when a digital camera user cannot understand by the contents displayed on the display device 53 but corrects. In this case, it will return from Step 109 to Step 104, and map information will be again displayed on the display device 53.

[0054]What is necessary is on the other hand, just to push the consent button 24, when a digital camera user can understand by the contents displayed on the display device 53. In this case, the control means 31 in the server computer 5 is controlled to advance processing to Step 110 from Step 109. In Step 110, the control means 31 as a place which wants to take a photograph A tourist resort name, The server computer 5 obtains the present place etc. of the season which wants to take a photograph, and a digital camera user via the Internet 10, and it controls to recognize the information which came to hand as users request information.

[0055]The processing which expresses above the picture which the user of the digital camera 1 wants to

see through the Internet 10 is ended.

[0056](Picture possession manifestation) As opposed to the users request information which drawing 10 is a flow chart which shows the detailed operation in step Sa2 of drawing 5, and was published as mentioned above, The flow which collects the intention information that it has a picture for which a digital camera user wishes, from the offer-of-information computers 2, 3, and 4 and -- is shown.

[0057]First, the control means 31 in the server computer 5 receives the users request information from the digital camera 1, and controls it by Step 201 to change the contents of the 1st memory measure 33 according to the users request information at Step 202. The control means 31 is controlled in Step 203 to turn to each offer-of-information computers 2, 3, and 4 and -- the users request information accumulated in the 1st memory measure 33 of the above, and to carry out broadcloth distribution through the Internet 10. In the case of this distribution, the control means 31 reads the registrant number accumulated in the 3rd memory measure 35, and controls it to the registrants (a tourist resort association, a travel agent, a photographer, etc.) corresponding to that registrant number to perform the above-mentioned broadcloth distribution.

[0058]Next, the offer-of-information computers 2, 3, and 4 which a tourist resort association, a travel agent, a photographer, etc. who received broadcloth distribution of users request information own, and -- receive this users request information at Step 204. And in Step 205, the offer-of-information computers 2, 3, and 4 and -- display the contents of users request information on indicators which self has for the purpose of telling having received users request information to a tourist resort association, a travel agent, a photographer, etc. who are the owner, such as CRT and LCD.

[0059]At this time, the example of the offer-of-information computers 2, 3, and 4 and the screen of -- displayed on an indicator is shown in drawing 11. As shown in drawing 11, on the offer-of-information computers 2, 3, and 4 and the display screen of --, users request information is displayed like the numerals 81. Under the present circumstances, the information urged to a tourist resort association, a travel agent or a photographer, etc. that the information which can be provided is inputted to users request information is also displayed like the numerals 82.

[0060]Next, in Step 206, the offer-of-information computers 2, 3, and 4 and -- search whether the picture which can be responded suitably for users request information is accumulated in a certain memory measure. the search in this case may be the offer-of-information computers 2, 3, and 4 and a means to search on the file by which -- is accumulated in the self memory measure -- carrying out and linking with other computers -- being concerned -- others -- it may be a means to search on the file accumulated in the storage means. It may be a means by which a tourist resort association, a travel agent, a photographer, etc. search on the file accumulated by its handicraft etc.

[0061]And the graphics file which can be responded suitably for users request information at Step 207 based on the above search results is owned, or how is judged. Here, when such a graphics file is owned, the offer-of-information computers 2, 3, and 4 and -- are Step 208, turn that there is an applicable picture to the server computer 5, and transmit through the Internet 10. On the occasion of this transmission, the offer-of-information computers 2, 3, and 4 and -- shall recognize information, including the tourist resort name about the picture, photographing time, a photographing location, the degree of angle of coverage, etc., and a registrant number as provided information, and shall transmit towards the server computer 5.

[0062]Next, in Step 209, the control means 31 in the server computer 5 is controlled to receive the provided information based on the above contents via the Internet 10. And the control means 31 is Step 210 and is controlled to change the contents of the 2nd memory measure 34 according to the received provided information. The processing whose tourist resort association, travel agent, photographer, etc. express possessing the picture of user hope by reception of the provided information by this server computer 5 and Make Changes of the 2nd memory measure 34 is completed.

[0063](Graphics file collection) Drawing 12 is a flow chart which shows the detailed operation in step

Sa3 of drawing 5, and shows the flow about how a picture for which a digital camera user wishes is accumulated in the server computer 5.

[0064]In drawing 12, at Step 301, the control means 31 in the server computer 5, While reading users request information from the 1st memory measure 33 based on the control program memorized by the 7th memory measure 40, Each offer-of-information computers 2, 3, and 4 and the provided information supplied from -- are read from the 2nd memory measure 34 one by one, the users request information concerned and each provided information are used as a database, and a comparative examination is carried out. And as a result of this comparative examination the control means 31, A photograph was taken within a 10-km radius of the photographing location which one or two suitable conditions or more of users request information, for example, a digital camera user, require, Or while searching and choosing provided information by which conditions, such as restricting to the season specified by a digital camera user, are fulfilled, it controls to change the contents of the 2nd memory measure 34 based on this selected result.

[0065]Next, in Step 302, the control means 31 generates having been chosen as selection information for every registrant number registered as an offer-of-information computer which is the dispatch origin of the selected provided information. In Step 303, the control means 31, When the offer-of-information computer which is the dispatch origin of the selected provided information turns to the server computer 5 the information about the advertisement and promotion mentioned later and transmits through the Internet 10, it controls to generate the advertisement permit information which is what is called a password used as the requirements for the permission judgment. And the control means 31 transmits through the Internet 10 towards an offer-of-information computer applicable after reading the registrant number based on a selected result for the selection information and advertisement permit information which generated [above-mentioned] from the 3rd memory measure 35 at Step 304.

[0066]The offer-of-information computer which is the dispatch origin of the selected provided information receives the selection information and advertisement permit information which are sent from the server computer 5 in Step 305. Then, an offer-of-information computer is expressed as Step 306 on a display, in order to notify of having received selection information in a tourist resort association, a travel agent, or a photographer etc. who is the owner. That is, the thing for which conditions with a suitable picture which the offer-of-information computer concerned possesses to a picture for which a digital camera user wishes were fulfilled, For example, it indicates that it fulfilled conditions, such as restricting to having taken a photograph within a 10-km radius of the photographing location which a digital camera user demands, or the season specified by a digital camera user, on the display of the offer-of-information computer which a tourist resort association etc. possess.

[0067]Next, if it is the advertisement and promotion concerning self business, for example, a tourist resort association, an offer-of-information computer will read the stay situation of the lodgings of this tourist resort, a reference, or means of transportation guidance from creation or a file at it, while searching the picture information corresponding to provided information with Step 307. This may be a case where a tourist resort association, a travel agent, or a photographer does search creation manually. This will progress to the following step 308.

[0068]In Step 308, an offer-of-information computer transmits the picture information and advertisement information corresponding to provided information to the server computer 5 through the Internet 10 based on the advertisement permit information previously obtained from the server computer 5. Under the present circumstances, an offer-of-information computer is controlled to embed the data in which a registrant number and a photographing location are shown by digital watermarking at picture information.

[0069](Picture transmission) Drawing 13 is a flow chart which shows the detailed operation in step Sa4 of drawing 5, and shows how it is checked whether the picture transmitted to the digital camera 1 from now on is a picture according to the season when a digital camera user desires photography. By stepping

on this process, even if a digital camera user has a picture which is contrary to a digital camera user's intention temporarily in the collected picture information, he needs to choose the picture concerned.

[0070] Since a tourist resort association, a travel agent, or a photographer etc. who provides a picture can perform advertisement only when the self picture to provide agrees in the picture which a digital camera user desires, improvement in the quality of the picture collected will be achieved. Because, in order for a tourist resort association, a travel agent, or a photographer etc. who provides a picture to perform self advertisement and promotion, it is needed for a digital camera user's hope that it is a ***** picture. As a result, a tourist resort association, a travel agent, or a photographer is because it is humanity that it is going to strive for upgrading of a picture independently so that it may be realized.

[0071] In drawing 13, first, in Step 402, the control means 31 in the server computer 5 is controlled so that I/O control unit 32 receives the picture information and advertisement information of the offer-of-information computers 2, 3, and 4 and -- which are sent from any they are. Next, the control means 31 is Step 403 and is controlled to change the advertising and promotional file accumulated in the 6th memory measure 38 based on the received advertisement information. The control means 31 is controlled to change the graphics file accumulated in the 4th memory measure 36 based on the picture information which received.

[0072] Furthermore, the control means 31 is Step 404 and is controlled by processing the picture information which received, for example, compressing information by infanticide of subsampling or image data to perform processing which reduces a picture. And the control means 31 is controlled to turn the generated processed-images information to the digital camera 1 in Step 405, and to transmit through I/O control unit 32 and the Internet 10.

[0073] The digital camera 1 is Step 406 and receives the processed-images information transmitted from the server computer 5 via the radio interface 76 or the wire communication interface 77. And based on data processing of CPU72, the picture using the received processed-images information is expressed as Step 407 on the display device 53 of the digital camera 1. The example of a screen display of the display device 53 of the digital camera 1 at this time is shown in drawing 14.

[0074] In drawing 14, two or more pictures 44 depended on processed-images information are displayed. When two or more processed images which cannot be displayed at once on the display device 53 are included, it is made to display based on the program in the program memory 73 that the scroll buttons 41a and 41b are allotted on the display device 53. And a screen is scrolled so that the next image display may be performed, when a digital camera user contacts the nib of the pointing pen 56 to the scroll button 41b, and a screen is scrolled so that pre- image display may be performed, when the scroll button 41a is made to contact similarly.

[0075] As shown in drawing 14, the display 42 urged that it is checked whether it is a picture for which the user itself wishes to a digital camera user with the display of the processed images 44 on the display device 53 is also performed (Step 408 of drawing 13). Here, suppose that the nib of the pointing pen 56 was doubled with the picture of the numerals 43 concerned in order to, choose the picture which a digital camera user shows with the numerals 43 for example (Step 409 of drawing 13). In this case, it is saved by predetermined coding by the information on the purport that the picture concerned was chosen at the data memory 80, and in the following step 410. Based on the data stored in the data memory 80 concerned, data processing is performed by CPU72, picture claim information is generated, and it is transmitted to the server computer 5 through the Internet 10.

[0076] Next, in Step 411, the control means 31 in the server computer 5 is controlled so that I/O control unit 32 receives picture claim information. The control means 31 searches the graphics file corresponding to the picture claim information concerned with Step 412 out of the 4th memory measure 36 based on the received picture claim information. While searching the advertising and promotional file accumulated in the 6th memory measure 38 based on the registrant number linked to the searched picture information as digital watermarking, It controls to search the map data file

corresponding to the data in which the photographing location similarly linked as digital watermarking is shown (x, y) out of the 5th memory measure 37. And it controls to turn these picture information, advertisement information, and map information to the digital camera 1, and to transmit through the Internet 10.

[0077]After this checks whether the picture transmitted from now on is a picture according to the season when a digital camera user desires photography, only a desired picture is receivable with the digital camera 1.

[0078](Map information and linked image distribution) Drawing 15 is a flow chart which shows the detailed operation in step Sa5 of drawing 5, and shows how a digital camera user receives distribution of the picture information to which map information was linked.

[0079]First, in Step 501, the digital camera 1 receives picture information, advertisement information, and map information with the radio interface 76 or the wire communication interface 77. And in Step 502, the digital camera 1 displays the photograph by picture information on the display device 53 based on the program memorized by the program memory 73. The example of a screen of the display device 53 of the digital camera 1 at this time is shown in drawing 16.

[0080]In drawing 16, the picture which the digital camera user chose is displayed in the big state, without carrying out subsampling processing so that a digital camera user may be legible (numerals 61). CPU72 is controlled so that the predetermined data (a photographing location, a season, etc.) about picture information like the numerals 62-64 is displayed on the display device 53. They are a button for 65 to display the map of a photographing location, and a button for 66 to perform control which returns to the screen of drawing 14.

[0081]Here, suppose that it was thought that a digital camera user wanted to know concretely the place which can take a photograph like the picture 61. In this case, in Step 503 of drawing 15, if a digital camera user doubles the nib of the pointing pen 56 with the button 65, According to the program memorized by the program memory 73, the advertisement information and map information which were temporarily accumulated in the data memory 80 are displayed on the display device 53 (Step 504,505). The example of the display screen of the display device 53 at this time is shown in drawing 17.

[0082]As shown in drawing 17, while the place which photoed the photograph 91 is displayed like the numerals 91, the advertisement information of a tourist resort association, a travel agent, a photographer, etc. is displayed like the numerals 92. Thus, the photograph according to a season for which a digital camera user asks is linked to map information, and a digital camera user is provided with it. A high definition picture can also be immediately printed out by transmitting image data to the printer which is not illustrated via the radio interface 76 or the wire communication interface 77 via the portable memory interface 78.

[0083]As explained above, according to this embodiment, the user of the digital camera 1 becomes possible [that a photograph which wishes to take a photograph comes to hand certainly by easy work]. Since the photograph concerned which came to hand is linked with map information, the user of the digital camera 1 becomes possible [recognizing a place suitable for taking the photograph to wish exactly using map information]. Although an above-mentioned embodiment does not explain, if information [/ photographing techniques, such as the degree of angle of coverage or other than map information] is linked to picture information, and is provided, and a photograph is taken how, he can understand easily whether a beautiful photograph can be taken like a picture postcard.

[0084]A tourist resort association, a travel agent, or a photographer can realize carrying out restrictive advertisement and promotion to the picture which self owns to the user who shows interest while becoming possible [providing broadly the picture which self owns through the Internet 10]. Since it has a function in which the digital camera 1 of this embodiment can equip with the portable memory using magnetism, optical magnetism, or IC if it furthermore says, if it uses together with a print means, there is also a merit that a picture can be printed out at favorite time and place.

[0085]Although the digital camera 1 was used in the above-mentioned embodiment as an information-and-telecommunications terminal which the user who takes a photograph uses, it is also possible to use communication equipment other than digital camera 1 as an information-and-telecommunications terminal for carrying out this invention. For example, they may be the apparatus which it has a data communication facility, and can transmit and receive data using a telephone line or radio and which transposed the system notebook to the small computer (a Personal Digital Assistant, PDA, etc.). It is possible a cellular phone with a digital camera and to carry out this invention, even if it is the combination of a still camera and these information-and-telecommunications terminal, etc. further.

[0086]When there is a demand of a desired photograph from the digital camera 1 to the server computer 5 in the above-mentioned embodiment, Although the server computer 5 searches each offer-of-information computers 2, 3, and 4 and the picture information which accesses -- and fulfills conditions in real time and he is trying to provide it, this invention is not limited to such a gestalt. For example, each offer-of-information computers 2, 3, and 4, and the photograph and advertisement and promotion which -- provides are beforehand registered into the server computer 5, When there is a demand of a desired photograph from the digital camera 1 to the server computer 5, the server computer 5 searches the picture information which fulfills conditions, and it may be made to provide out of each photograph registered a priori. This registration may be performed by memorizing the information with which real time is provided by searching one by one.

[0087]The digital camera user itself evaluates the photograph with which the digital camera user was provided, and it may be made to feed back the result to the server computer 5 or each offer-of-information computers 2, 3, and 4, and --. If it does in this way, in order to obtain the outstanding evaluation, a tourist resort association, a travel agent, or a photographer etc. who provides a picture, Since it is going to strive for upgrading of the further picture to provide a digital camera user's hope with a ***** picture, further improvement in the quality of the picture with which a digital camera user is provided can be aimed at.

[0088](Other embodiments of this invention) So that various kinds of devices may be operated in order to realize the function of an embodiment mentioned above, As opposed to the computer in the device or system connected with these various devices, The program code of the software for realizing the function of the above-mentioned embodiment is supplied, and what was carried out by operating the various above-mentioned devices according to the program stored in the computer (CPU or MPU) of the system or a device is contained under the category of this invention.

[0089]The function of an embodiment which the program code of the above-mentioned software itself mentioned above in this case will be realized, The recording medium which stored the means for supplying the program code itself and its program code to a computer, for example, this program code, constitutes this invention. As a recording medium which memorizes this program code, a floppy disk, a hard disk, an optical disc, a magneto-optical disc, CD-ROM, magnetic tape, a nonvolatile memory card, ROM, etc. can be used, for example.

[0090]By executing the program code with which the computer was supplied, The function of an above-mentioned embodiment is not only realized, but, Also when the function of an above-mentioned embodiment is realized in collaboration with OS (operating system) or other application software etc. with which the program code is working in a computer, it cannot be overemphasized that this program code is contained in the embodiment of this invention.

[0091]After the supplied program code was stored in the memory with which the function expansion unit connected to the expansion board of a computer or the computer is equipped, Also when the function of an embodiment which CPU etc. with which the expansion board and function expansion unit are equipped based on directions of the program code performed a part or all of actual processing, and mentioned above by the processing is realized, it cannot be overemphasized that it is contained in this invention.

[0092]

[Effect of the Invention]As explained above, according to this invention, the user who receives offer of picture information becomes possible [that picture information which wishes to take a photograph comes to hand certainly by easy work]. When it constitutes so that map information may be linked to picture information, a user becomes possible [recognizing a place suitable for taking the photograph to wish exactly using map information]. When it constitutes so that season information may be linked to picture information, the user can choose and get the picture information of the season for which it asks under self judgment. For the donor of picture information, it becomes possible to provide broadly the picture information which self owns. When it constitutes so that advertisement information may be linked to picture information, the picture information donor can carry out restrictive advertisement and promotion to the picture which self owns to the user who shows interest. By the above, those who take a photograph can obtain the information about capital photography simply and certainly, and the photography person can perform now easily photography for which it asks. Image suppliers, such as a tourist resort association, a travel company or a photographer, can limit to those who are interested in the picture information, and can perform advertisement [in detail] now efficiently.

CLAIMS

[Claim(s)]

[Claim 1] A request input means to input users request information about picture information which receives offer, An image collecting means which collects picture information which satisfies conditions of the above-mentioned users request information that it was inputted by the above-mentioned request input means from the offer side of the picture information concerned, An information processor provided with a picture providing means which provides a side which receives offer of described image information with picture information collected by a described image collecting means.

[Claim 2] A demand distribution means which distributes the above-mentioned users request information that a described image collecting means was inputted by the above-mentioned request input means to the offer side of described image information, As a response of having distributed the above-mentioned users request information by the above-mentioned demand distribution means, A provided information input means which inputs provided information sent from the offer side of described image information, A selection information transmitting means which chooses what satisfies conditions of the above-mentioned users request information, and transmits selection information showing having chosen to dispatch origin of the selected provided information concerned out of one or more provided information inputted by the above-mentioned provided information input means, The information processor according to claim 1 provided with a picture information input means which inputs picture information sent from dispatch origin of provided information chosen [above-mentioned] as a response of having transmitted the above-mentioned selection information by the above-mentioned selection information transmitting means.

[Claim 3] The information processor according to claim 1 or 2 processing picture information collected by a described image collecting means, generating processed-images information for a check, and having further a verifying means which checks to a near user who receives offer of described image information using the processed-images information concerned.

[Claim 4] An information processor given in any 1 paragraph of Claims 1-3, wherein the above-mentioned users request information includes information about a place of a picture which a user demands.

[Claim 5] The information processor according to claim 4, wherein it relates a described image providing means with map information corresponding to a place of a described image and it provides picture information collected by a described image collecting means.

[Claim 6] An information processor given in any 1 paragraph of Claims 1-3, wherein the above-mentioned users request information includes information about a season of a picture which a user demands.

[Claim 7] The information processor according to claim 6, wherein information concerning [information about the above-mentioned season] the present season is set up.

[Claim 8] The information processor according to claim 6 or 7, wherein a described image providing means relates with season information picture information collected by a described image collecting means and provides it.

[Claim 9] An information processor given in any 1 paragraph of Claims 1-8, wherein it relates a described image providing means with advertisement information sent from the offer side of described image information and it provides picture information collected by a described image collecting means.

[Claim 10] An information processor comprising:

A required power means to output users request information in order to receive offer of picture information.

An image input means which inputs picture information which satisfies conditions of the above-

mentioned users request information collected from the offer side of described image information as a response to the above-mentioned users request information outputted by the above-mentioned required power means.

[Claim 11]After inputting processed-images information for a check generated based on picture information collected from the offer side of described image information and checking using the processed-images information concerned, The information processor according to claim 10, wherein it has a picture request means which charges offer of a desired picture and a described image input means inputs picture information which satisfies conditions of the above-mentioned users request information as a response of offer of a desired picture having been charged by a described image request means.

[Claim 12]The information processor according to claim 10 or 11, wherein the above-mentioned users request information includes information about a place of a picture which a user demands.

[Claim 13]The information processor according to claim 12, wherein picture information inputted by a described image input means relates with map information corresponding to a place of a described image and is provided.

[Claim 14]The information processor according to claim 10 or 11, wherein the above-mentioned users request information includes information about a season of a picture which a user demands.

[Claim 15]The information processor according to claim 14, wherein information concerning [information about the above-mentioned season] the present season is set up.

[Claim 16]The information processor according to claim 14 or 15, wherein picture information inputted by a described image input means relates with season information and is provided.

[Claim 17]An information processor given in any 1 paragraph of Claims 10-16, wherein picture information inputted by a described image input means relates with advertisement information sent from the offer side of described image information and is provided.

[Claim 18]A network system which has on a network the 1st terminal that receives offer of picture information characterized by comprising the following, the 2nd terminal that performs offer of picture information, and the 3rd terminal that performs agency between the 1st terminal of the above, and a terminal of the above 2nd.

A demand issuing means which publishes users request information about picture information which receives offer from the 1st terminal of the above to the 3rd terminal of the above.

An image collecting means which collects picture information which is satisfied with the 3rd terminal of the above of conditions of the above-mentioned users request information in response to the above-mentioned users request information published by the above-mentioned demand issuing means from the 2nd terminal of the above.

A picture providing means which provides the 1st terminal of the above with picture information which the 3rd terminal of the above collected from the 2nd terminal of the above.

[Claim 19]The network system comprising according to claim 18:

A demand distribution means which distributes the above-mentioned users request information that the 3rd terminal of the above received a described image collecting means from the 1st terminal of the above to the 2nd terminal of the above.

A provided information input means which inputs provided information sent from the 2nd terminal of the above as a response of having distributed the above-mentioned users request information by the above-mentioned demand distribution means.

A selection information transmitting means which chooses what satisfies conditions of the above-mentioned users request information, and transmits selection information showing having chosen to the 2nd terminal that is dispatch origin of the selected provided information concerned out of one or more provided information inputted by the above-mentioned provided information input means.

A picture information input means which inputs picture information sent from the 2nd terminal of the above as a response of having transmitted the above-mentioned selection information by the above-mentioned selection information transmitting means.

[Claim 20]The 3rd terminal of the above processes picture information collected by a described image collecting means, and generates processed-images information for a check, The network system according to claim 18 or 19 provided with a verifying means which transmits the processed-images information concerned to the 1st terminal of the above, and checks to a user of the 1st terminal concerned.

[Claim 21]The above-mentioned users request information including information about a place of a picture which a user demands a described image providing means, A network system given in any 1 paragraph of Claims 18-20 relating with map information corresponding to a place of a described image picture information collected by a described image collecting means, and providing it.

[Claim 22]A network system given in any 1 paragraph of Claims 18-21, wherein a described image providing means relates with season information picture information collected by a described image collecting means and provides it including information about a season of a picture when a user demands the above-mentioned users request information.

[Claim 23]A network system given in any 1 paragraph of Claims 18-22, wherein it relates a described image providing means with advertisement information sent from the 2nd terminal of the above and it provides picture information collected by a described image collecting means.

[Claim 24]Users request information about picture information which receives offer is inputted from a side which receives offer of described image information, A picture information provision method collecting picture information which satisfies conditions of the above-mentioned users request information inputted [above-mentioned] from the offer side of the picture information concerned, and providing a side which receives offer of described image information with picture information which collected [above-mentioned].

[Claim 25]The above-mentioned users request information that it was inputted from a side which receives offer of described image information is distributed to the offer side of described image information, What satisfies conditions of the above-mentioned users request information is chosen from one or more provided information sent from the offer side of described image information as the response, The picture information provision method according to claim 24 collecting picture information sent from dispatch origin of provided information which transmitted selection information showing having chosen to dispatch origin of the selected provided information concerned, and was chosen [above-mentioned] as the response.

[Claim 26]The picture information provision method according to claim 24 or 25 providing charged picture information after checking to a near user who processes picture information collected [above-mentioned], generates processed-images information for a check, and receives offer of described image information using the processed-images information concerned.

[Claim 27]A picture information provision method given in any 1 paragraph of Claims 24-26, wherein it relates the above-mentioned users request information with map information corresponding to a place of a described image and it provides picture information collected [above-mentioned] including information about a place of a picture which a user demands.

[Claim 28]A picture information provision method given in any 1 paragraph of Claims 24-27, wherein the above-mentioned users request information relates with season information picture information collected [above-mentioned] and provides it including information about a season of a picture which a user demands.

[Claim 29]A picture information provision method given in any 1 paragraph of Claims 24-28 relating picture information collected [above-mentioned] with advertisement information sent from the offer

side of described image information, and providing it.

[Claim 30]A recording medium recording a program for operating a computer as each means of a description on any 1 paragraph of Claims 1-23 and in which computer reading is possible.

[Claim 31]A recording medium recording a program for making a computer perform procedure of a picture information provision method of a description on any 1 paragraph of Claims 24-29 and in which computer reading is possible.

DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]

[Drawing 1]It is a block diagram showing the composition of the network system by this embodiment.

[Drawing 2]It is a figure showing the outside of the digital camera by this embodiment.

[Drawing 3]It is a block diagram showing the circuitry of the digital camera by this embodiment.

[Drawing 4]It is a block diagram showing the composition of the server computer by this embodiment.

[Drawing 5]It is a flow chart which shows the flow of processing of the whole system containing the digital camera by this embodiment, a server computer, and an offer-of-information computer.

[Drawing 6]It is a flow chart which shows the detailed operation in step Sa1 of drawing 5.

[Drawing 7]It is a figure for explaining the input of the users request information by this embodiment.

[Drawing 8]It is a figure for explaining the input of the users request information by this embodiment.

[Drawing 9]It is a figure for explaining the input of the users request information by this embodiment.

[Drawing 10]It is a flow chart which shows the detailed operation in step Sa2 of drawing 5.

[Drawing 11]It is a figure for explaining the input of the provided information by this embodiment.

[Drawing 12]It is a flow chart which shows the detailed operation in step Sa3 of drawing 5.

[Drawing 13]It is a flow chart which shows the detailed operation in step Sa4 of drawing 5.

[Drawing 14]It is a figure for explaining the check of the processed-images information by this embodiment.

[Drawing 15]It is a flow chart which shows the detailed operation in step Sa5 of drawing 5.

[Drawing 16]It is a figure for explaining the picture information provided by this embodiment.

[Drawing 17]It is a figure for explaining the map information and advertisement information which are provided by this embodiment.

[Description of Notations]

1 Digital camera

2, 3, and 4 Offer-of-information computer

5 Server computer

10 Internet

12 Place setting button

13 Current position button

14 Seasonal button

15 Correction button

16 End button

31 Control means

32 I/O control unit

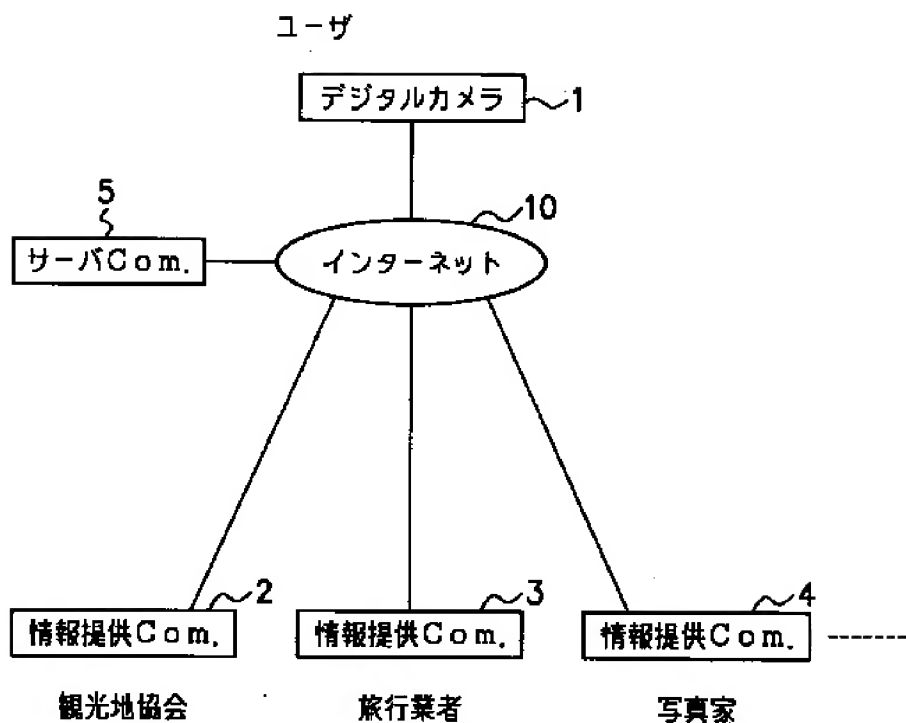
33 The 1st memory measure (users request file)

34 The 2nd memory measure (provided information file)

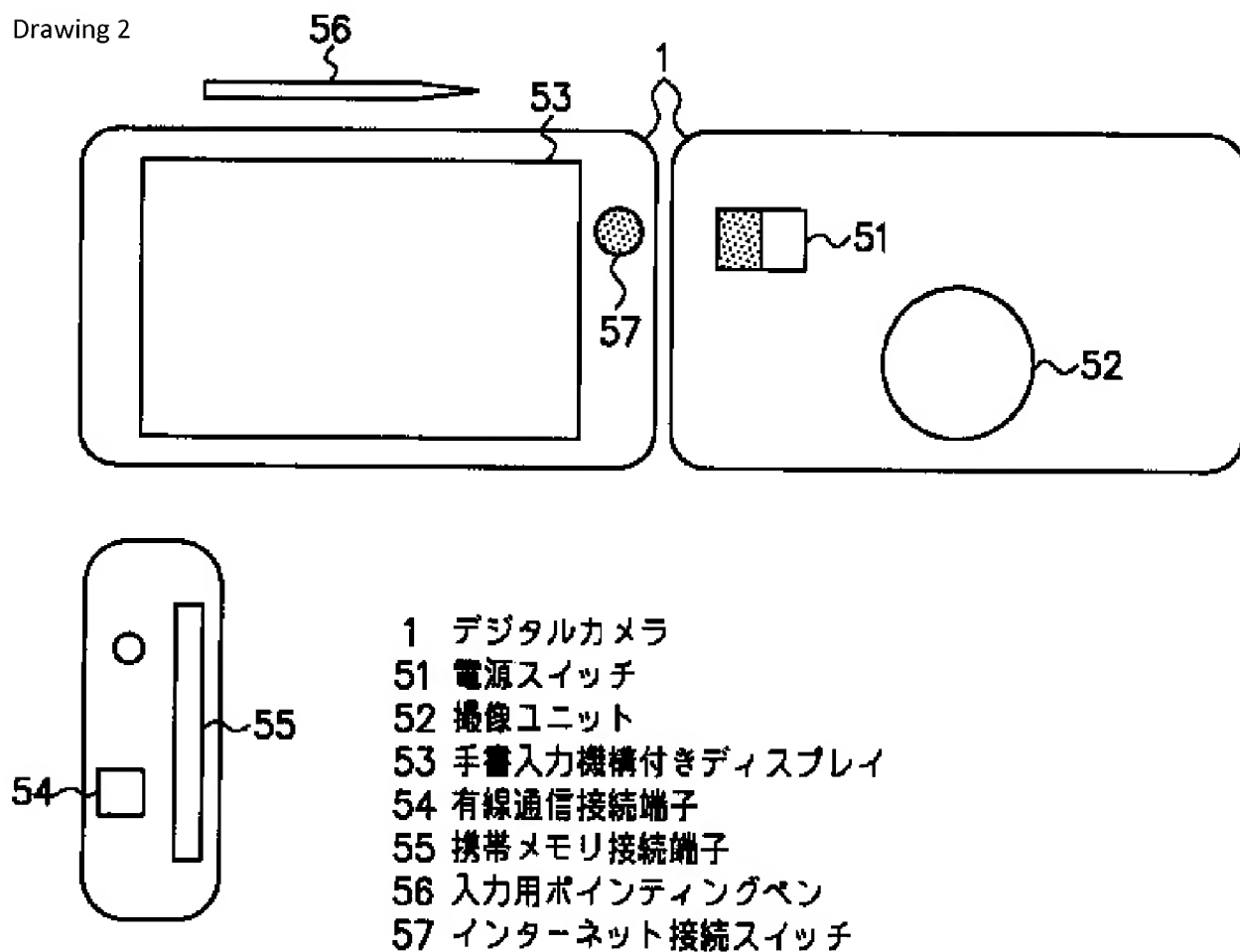
35 The 3rd memory measure (registrant data file)

36 The 4th memory measure (graphics file)
37 The 5th memory measure (map data file)
38 The 6th memory measure (advertising and promotional file)
40 The 7th memory measure (control program)
53 A display device with a handwriting input device
56 Pointing pen
57 Internet connectivity switch
72 CPU
73 Program memory
75 GPS
76 Radio interface
77 Wire communication interface
78 Portable memory interface
80 Data memory
82 Clock

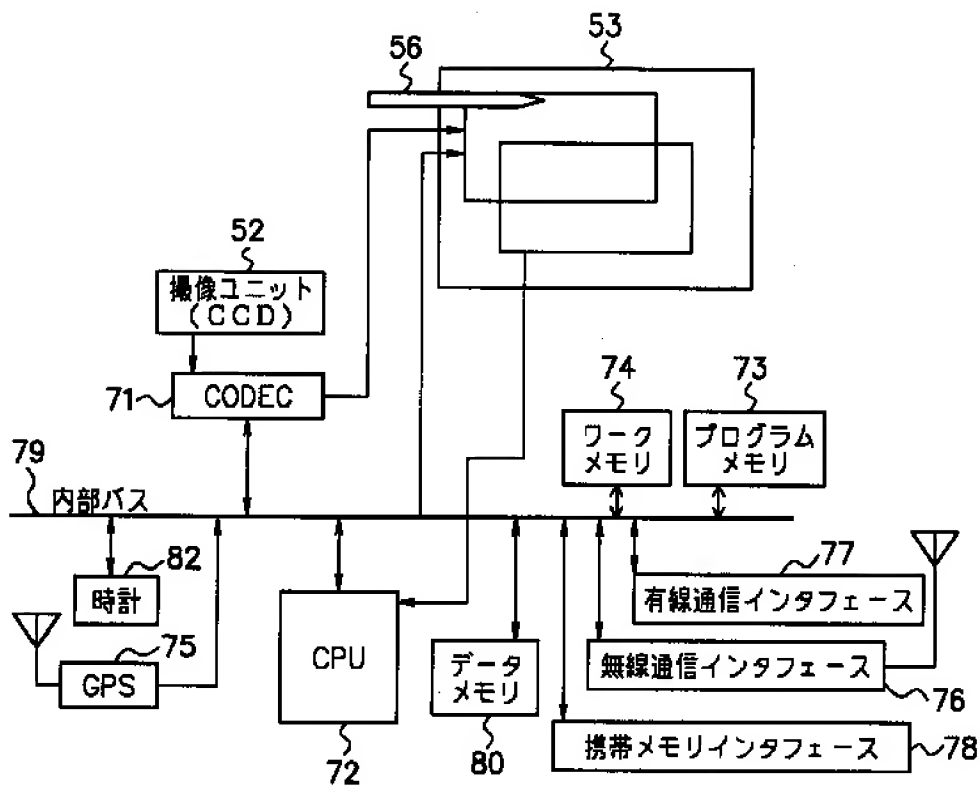
Drawing 1



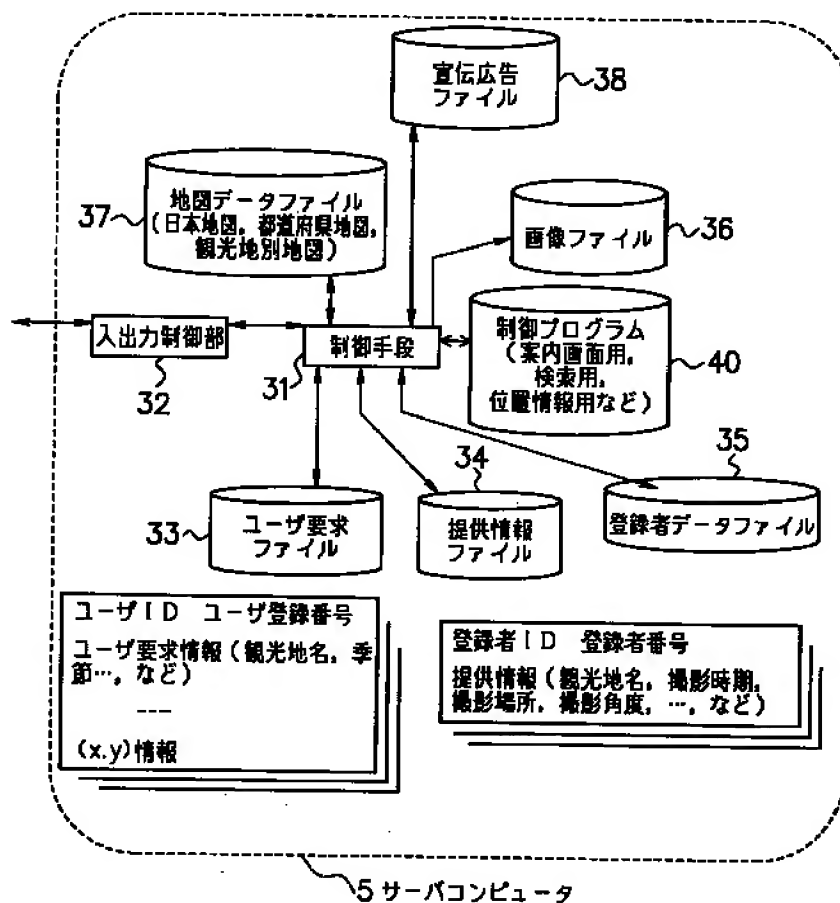
Drawing 2



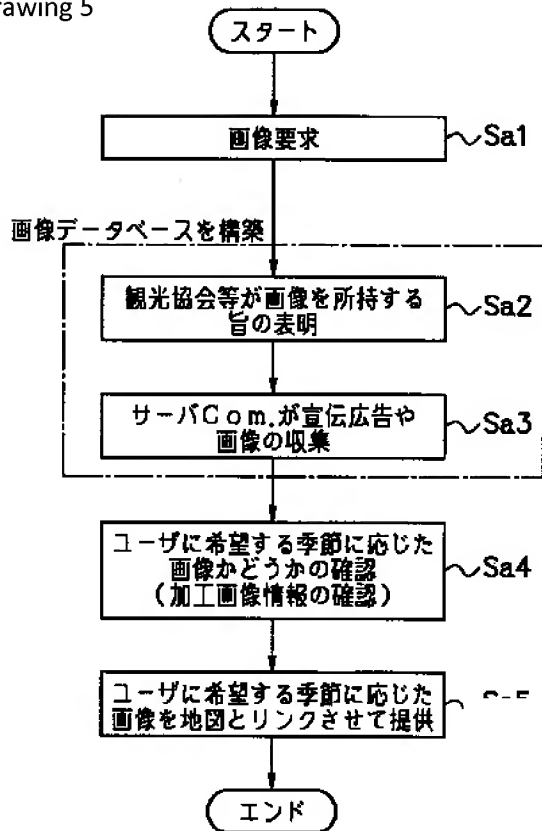
Drawing 3



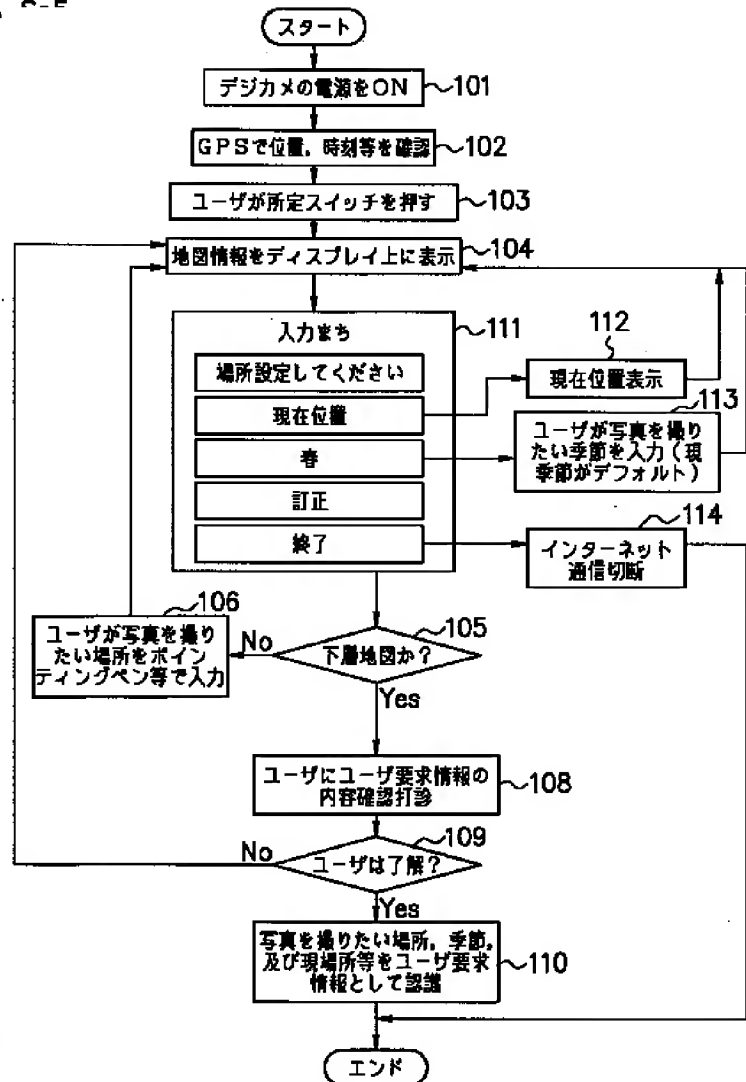
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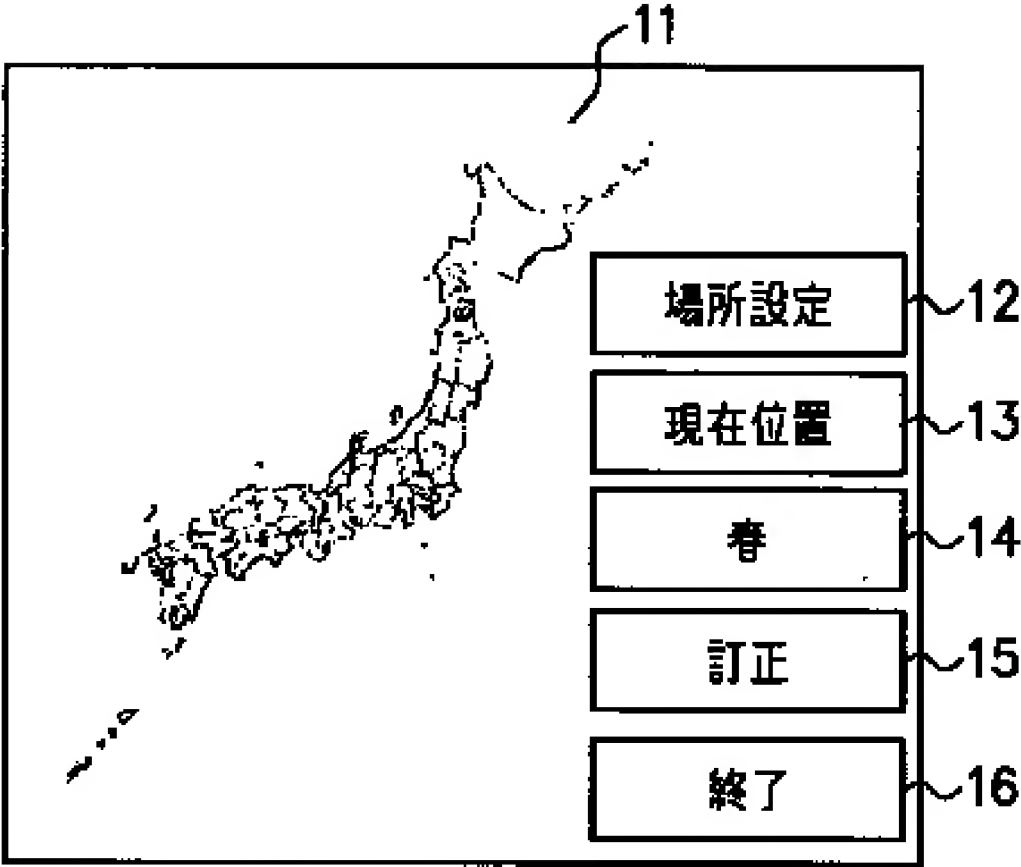
Drawing 5



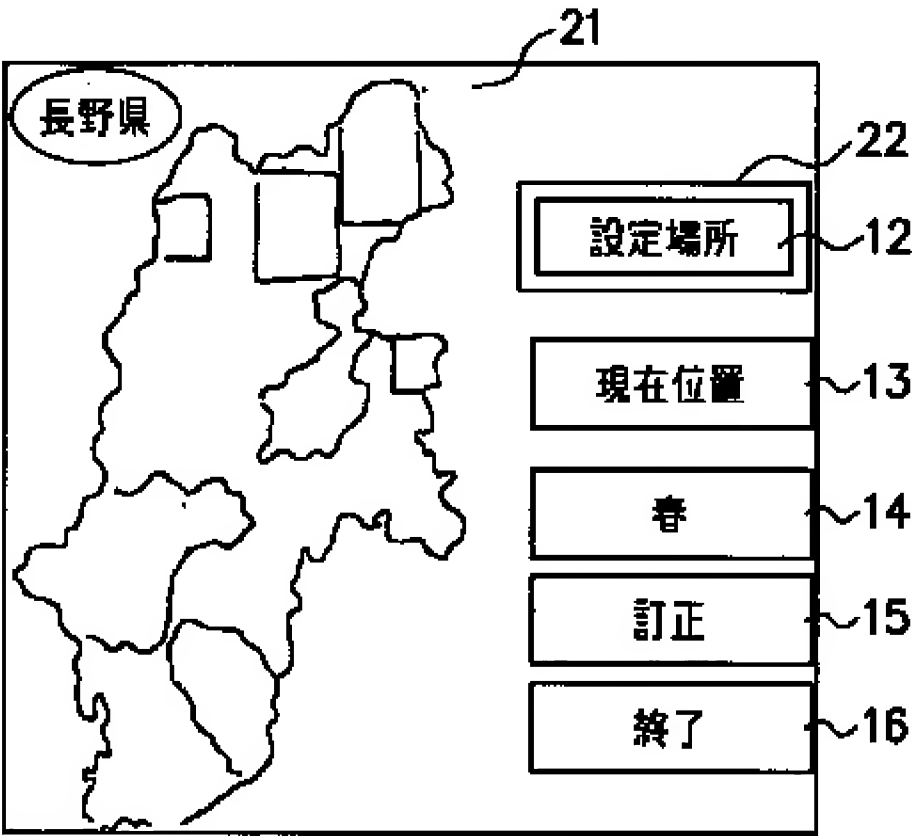
Drawing 6



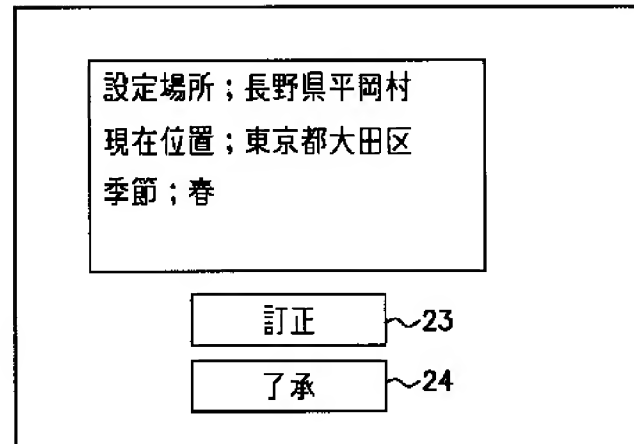
Drawing 7



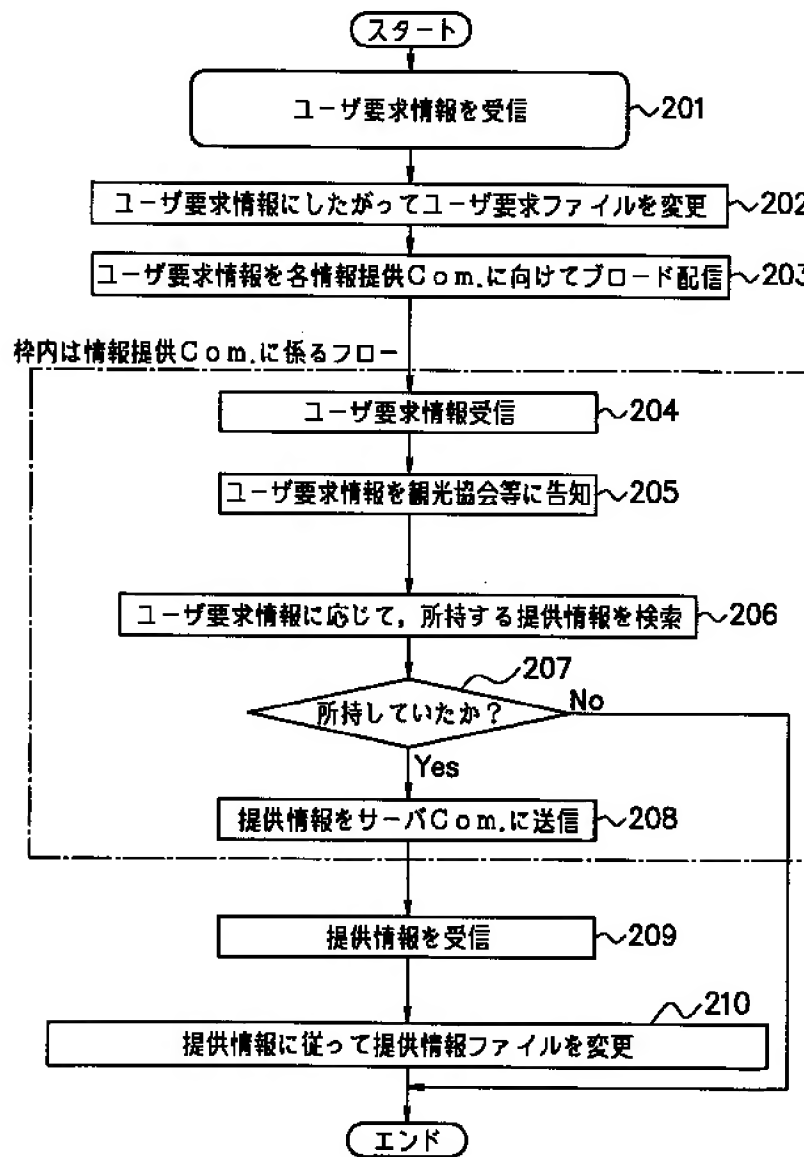
Drawing 8



Drawing 9



Drawing 10



Drawing 11

Tašov Market Mall

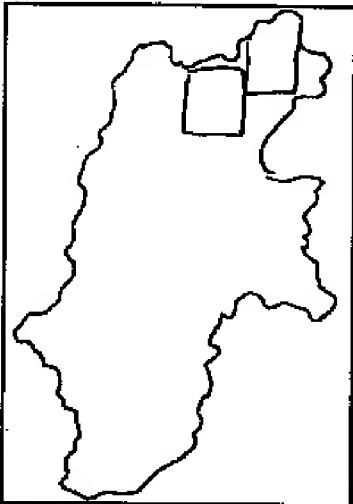
デジタルカメラユーザから次のような写真画像の要望がありました。

設定場所；長野県平岡村
 現在位置；東京都大田区
 季節；春

81

82 上記に対応する情報をお持ちでしょうか。

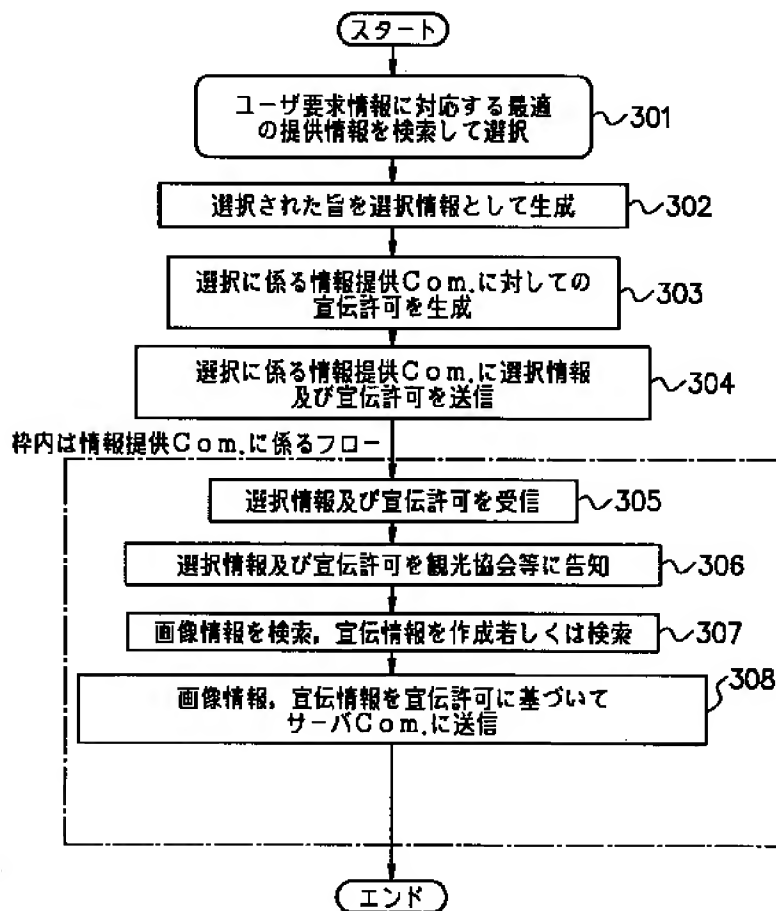
撮影場所；
季節；
登録者番号；****-****



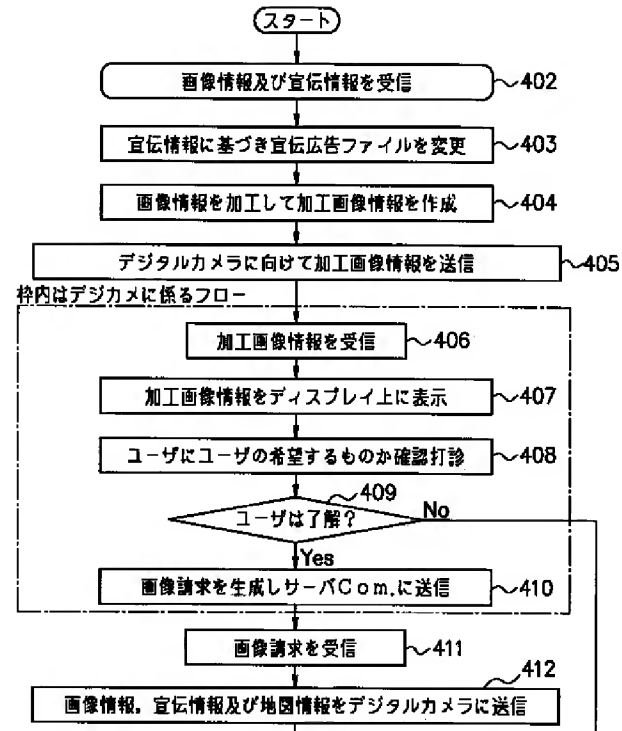
訂正

了承

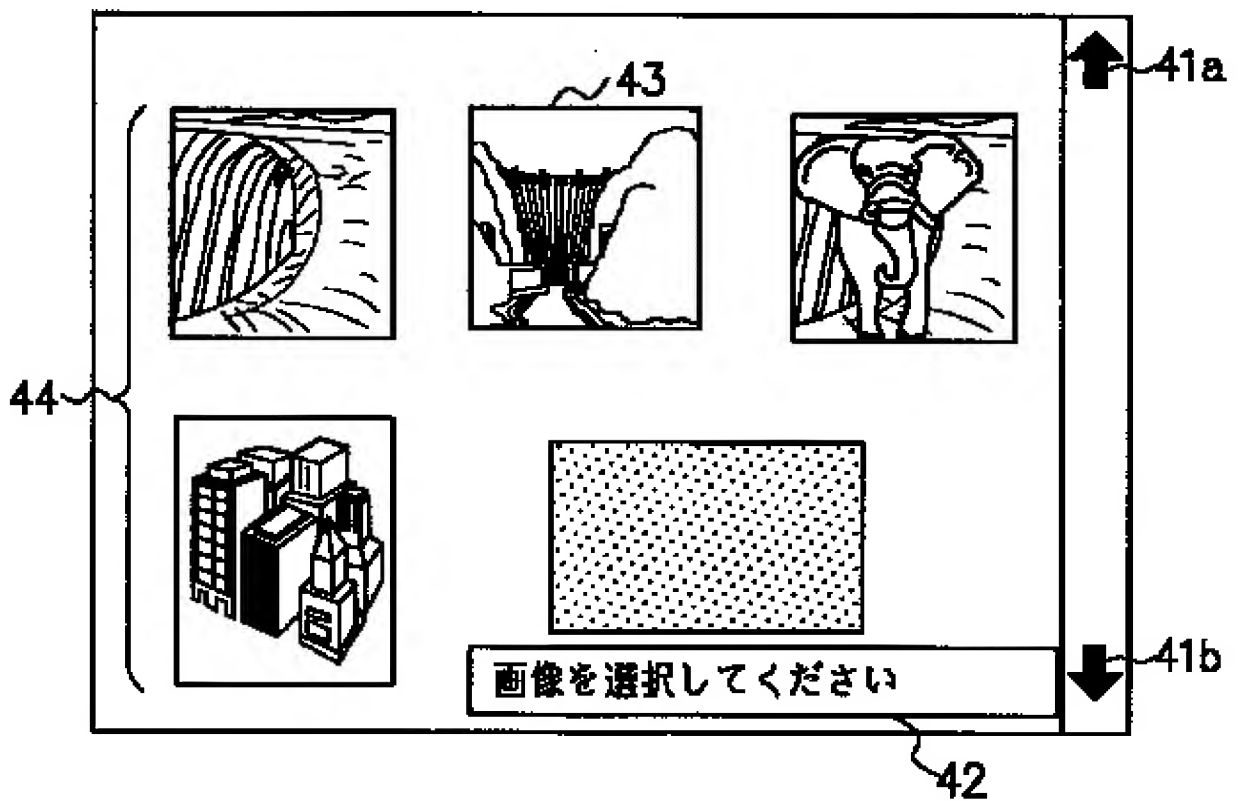
Drawing 12



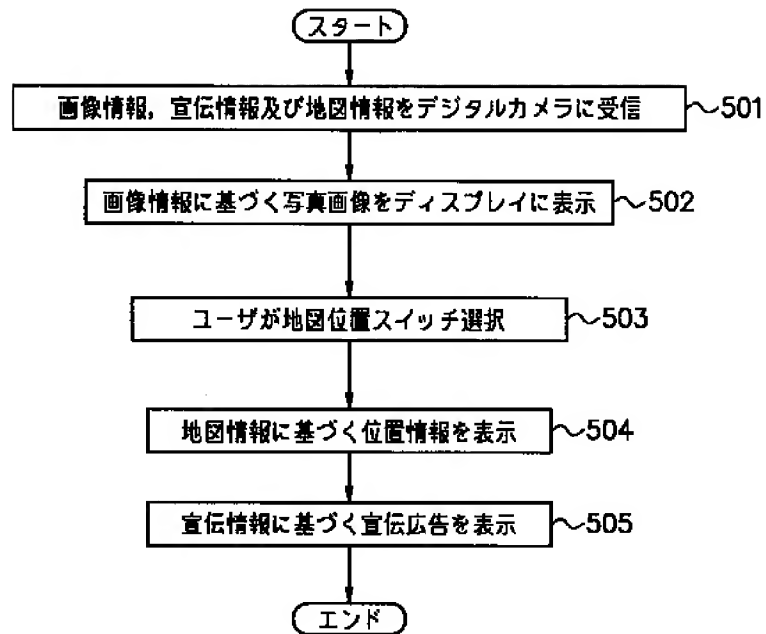
Drawing 13



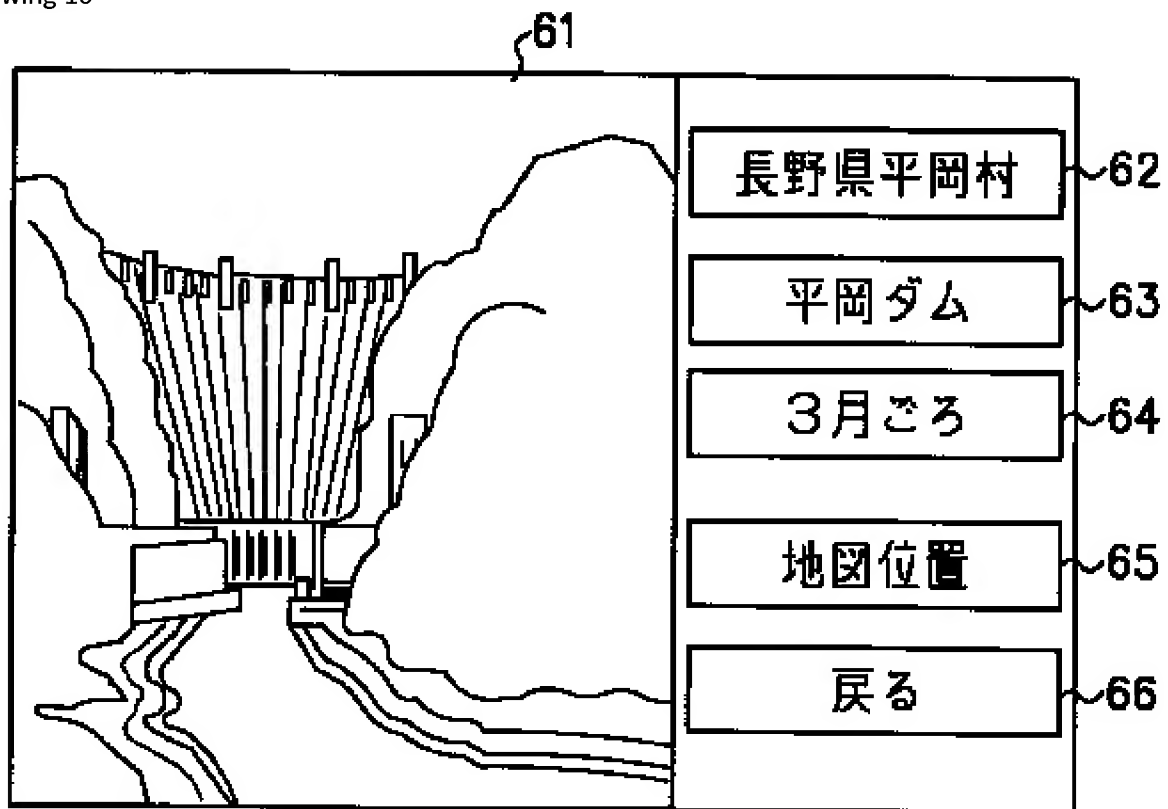
Drawing 14



Drawing 15



Drawing 16



Drawing 17

地図 位置情報

はじめまして、***観光協会です。

今日は絶好の撮影日ですね。ご宿泊は、***観光協会
に是非お問い合わせ下さい。

連絡方法 電話番号 ***-**-****

戻る